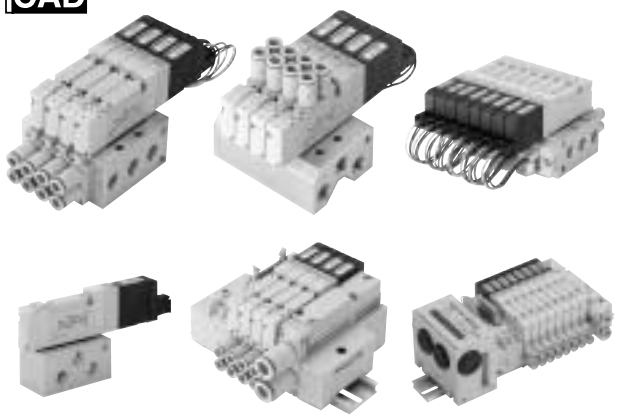
Presenting our CAD drawing data catalog



KOGANEI

VALVES GENERAL CATALOG

SOLENOID VALVES
F SERIES
INDEX

Characteristics — 506
Product Range — 508
Table of Cylinder Operating Speed — 510
Operating Principle and Symbol — 511
Handling Instructions and Precautions — 512
Disassembly Diagram and Unit Adding Procedure — 518
Product Configurations for Serial Transmission Compatible Manifold — 525
Specifications of Serial Transmission Compatible Manifold — 526
Precautions for Use Due to Partial Specification Change — 528
Order Code — 531
Solenoid Valves F10 Series — 567
  Specifications — 568
  Dimensions — 572
Solenoid Valves F15 Series — 585
  Specifications — 586
  Dimensions — 590
Solenoid Valves F18 Series — 603
  Specifications — 604
  Dimensions — 608
F Series Specifications Confirmation Form — 619

New Valve pursuing user friendlier operability and improving performance

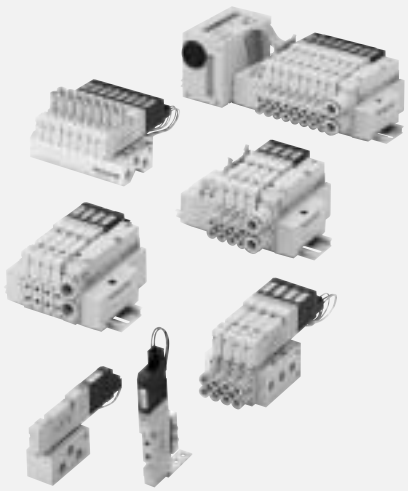
NEW Basic VALVE

F SERIES SOLENOID VALVES

1. Single/double dual-use valves

The F Series 2-position valves' function can be switched back and forth between single solenoid valve and double solenoid valve by using the manual override. This enables using models can be intensified against diversified application requirement.
Note: Excluding T0 (T-Zero) type

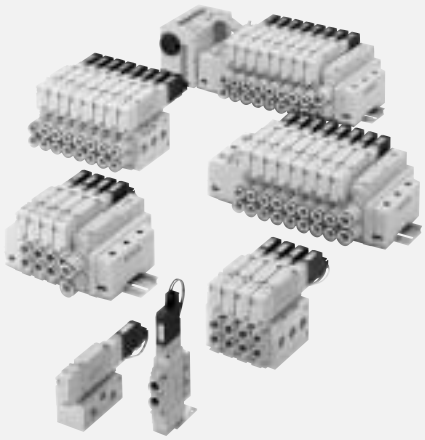
F10



Solenoid Valves F10 Series

- **Valve width:** 10mm
- **Effective area:** 5mm²
- **Applicable cylinder bore sizes:** φ20～φ50

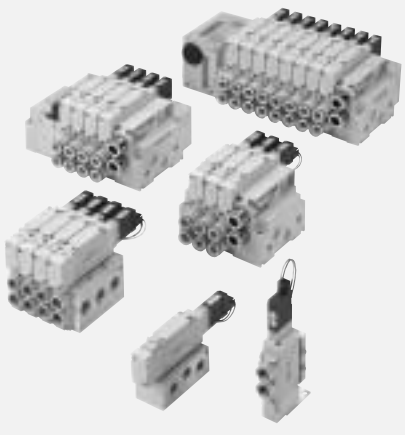
F15



Solenoid Valves F15 Series

- **Valve width:** 15mm
- **Effective area:** 10mm²
- **Applicable cylinder bore sizes:** φ40～φ80

F18



Solenoid Valves F18 Series

- **Valve width:** 18mm
- **Effective area:** 18mm²
- **Applicable cylinder bore sizes:** φ50～φ100

2. Uses dual-use fittings for different tube sizes.

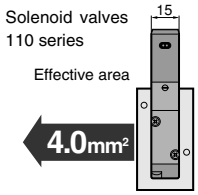
Allows tubes of different outer diameter to be connected.

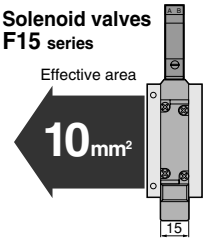
Series	Applicable tube sizes
F10	φ4, φ6
F15	φ6, φ8
F18	φ8, φ10

Note: Single size fittings can also be selected.

3. More compact, and high flow rate

Flow rate up by 2~3.3 times with the same valve width (compared with Koganei product).



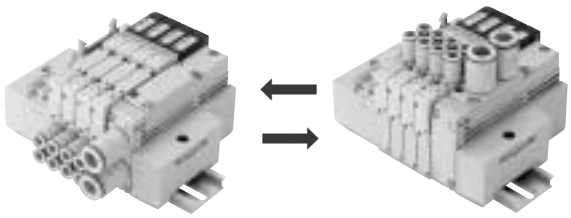


4. Single solenoid valve T0 (T-zero) type added

●A valve for single solenoid only has been added to the F series solenoid valve range inheriting the same design concept for easier selection. Moreover, it can be combined mounting with earlier manifolds, offering good maintenance.

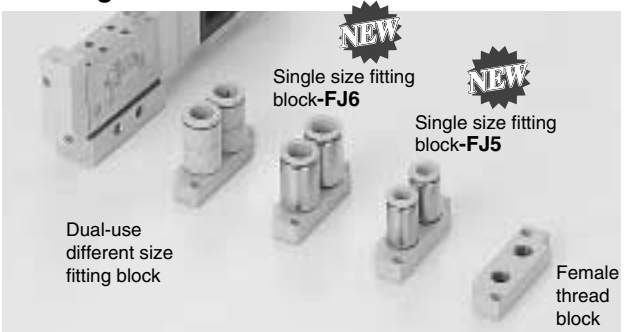
5. Offering user friendlier operability

●Replacing output blocks make it possible to change between base piping and direct piping.
(Except monoblock manifold F type and PC board manifold F type)



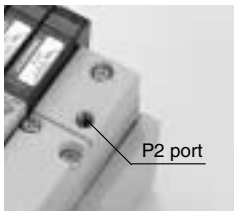
(Base piping) (Direct piping)

●Female thread block and fitting blocks can be selected.
For the fitting block, a fitting for single size only has been added to the previous dual-use fitting for different size tube, offering easier selection and usage.



●Both locking and non-locking type manual override is standard equipment.
A manual lever override can also be selected. (made to order)

●External pilot specification also can be selected.
External pilot (positive pressure) specification allows to operate from 0 MPa as main pressure. Vacuum specification can also be selected.



●Shared connectors (Single valve unit can also be used as plug-in type).

●Full range of wiring specifications.
The PC board manifold has been added to the monoblock type. A flat cable connector, D sub connector and terminal block are provided for the split manifold plug-in type. In addition, serial transmission compatible manifolds to 12 types of systems are also available.

●Individual air supply and exhaust offered.
Specially designed air supply or exhaust spacers installed between the manifold and valve allow individual air supply or exhaust.

6. Achieves power consumption of 0.9W (Current 38mA, DC24V)

※Power consumption per one valve (for DC24V specification)

F Series Product Range

Single Valve Unit

Valves can be used as a single unit by attaching an input port block. Mounting brackets are also provided.

Output port specifications

Series	With sub-base		For single valve unit or manifold use									
	Female thread		With female thread block			With different size fitting block			With single size fitting block			
	Rc 1/8	Rc 1/4	M5	Rc 1/8	Rc 1/4	φ4, φ6	φ6, φ8	φ8, φ10	φ4	φ6	φ8	φ10
F10	●		●			●			●	●		
F15	●			●			●			●	●	
F18		●			●			●			●	●

With fitting block

With female thread block

With A type sub-base

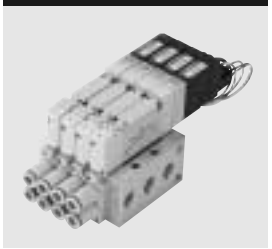
■With mounting bracket

Order code p.532,533
F10 series dimensions p.572
F15 series dimensions p.590
F18 series dimensions p.608

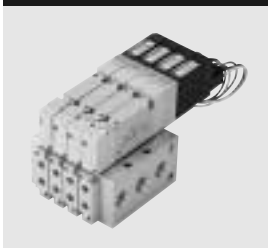
Monoblock Manifold A Type (Base Piping Type)

This base piping type manifold offers both maintenance and cost performance. Replacing the output block enables to use as a direct piping type manifold.
Using a plug connector with common terminal pre-wiring greatly reduces wiring work.

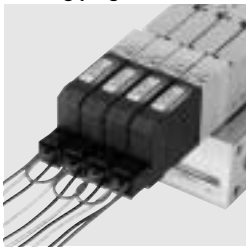
With fitting block



With female thread block



■Common terminal pre-wiring plug connector



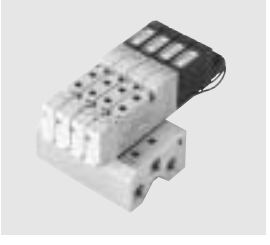
Order code p.534,535
F10 series dimensions p.575
F15 series dimensions p.593
F18 series dimensions p.611

Monoblock Manifold F Type (Direct Piping Type)

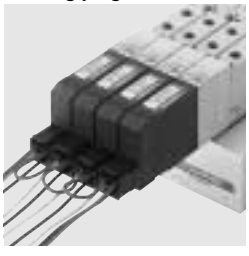
Manifold for direct piping type offers excellent cost performance.
Using a plug connector with common terminal pre-wiring greatly reduces wiring work.

With fitting block

With female thread block



■Common terminal pre-wiring plug connector

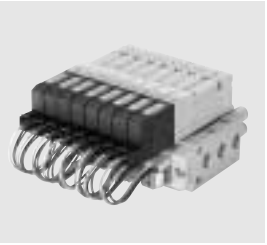


Order code p.536,537
F10 series dimensions p.576
F15 series dimensions p.594
F18 series dimensions p.612

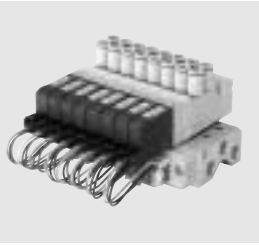
PC Board Manifold

A MIL type 20-pin flat cable connector is mounted on the monoblock manifold, to achieve both wiring savings and cost performance. Combined use of the Koganei PC wiring system and wiring specification -F201 allows for more effective wiring savings.
Note: Not available for F18 series.

A type (Base piping type)



F type (Direct piping type)

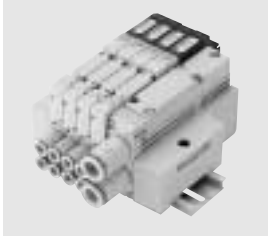


Order code p.538～541
F10 series dimensions p.577
F15 series dimensions p.595

Split Manifold Non-Plug-in Type

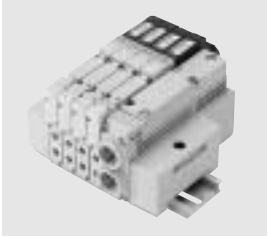
Enables easy addition or removal of manifold blocks. This system offers more flexibility in conforming to changes in specifications.

Manifold port with fitting block

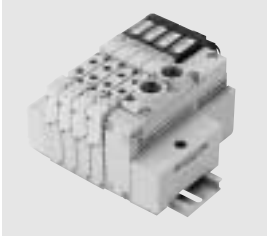


Valve port with fitting block

Manifold port with female thread block



Valve port with female thread block

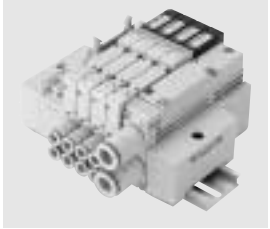


Order code p.542～545
F10 series dimensions p.578
F15 series dimensions p.596
F18 series dimensions p.613

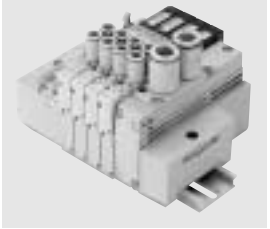
Split Manifold Plug-in Type

Manifold conforms to reduced wiring work. Adding on wiring allows adding manifold units.
Combined use of the Koganei PC wiring system and wiring specification -F201 offers more effective wiring savings.

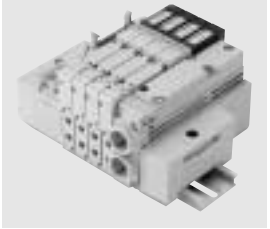
Manifold port with fitting block



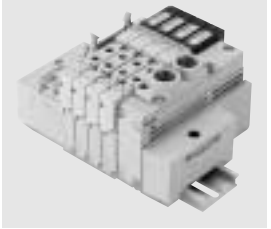
Valve port with fitting block



Manifold port with female thread block



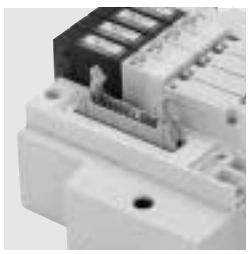
Valve port with female thread block



Order code p.546～549
F10 series dimensions p.579
F15 series dimensions p.597
F18 series dimensions p.614

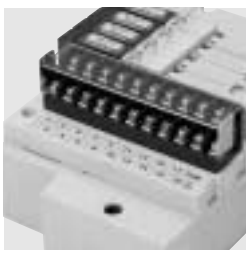
Wiring

■ **Flat cable connector**



■ **D sub connector**

■ **Terminal block**



Additional Parts

■ **Muffler**

Dimensions
F10 : p. 583
F15 : p. 601
F18 : p. 618

Serial Transmission Compatible Manifold

- **For Mitsubishi Electric MELSECNET/MINI-S3**
- **For Mitsubishi Electric MELSEC I/O Link**
- **For Mitsubishi Electric CC-Link**
- **For UNI-WIRE® System**
- **For KOYO Electronics Industries SA Bus**
- **For Sunx S-Link**
- **For Omron SYSBUS Wire System**
- **For Omron B7A Link Terminal**
- **For Omron CompoBus/D**
- **For Omron CompoBus/S**
- **For Fuji Electric T Link Mini**
- **For Keyence KZ-R**

※For details, see p. 525～527.

Order code p.550～556
F10 series dimensions p.582
F15 series dimensions p.600
F18 series dimensions p.617

Table of Cylinder Operating Speed

1. Cylinder mounting direction : Vertical

Series	Cylinder speed mm/s	Cylinder series／Conditions／Cylinder bore size mm									
		NEW Pen Cylinder Series Pressure : 0.5MPa Load ratio : 50% Cylinder stroke : 150mm Piping (outer diameter × inner diameter × length) : φ6×φ4×1000mm		**Slim Cylinder Series** Pressure : 0.5MPa Load ratio: 50% Cylinder stroke : 150mm Piping (outer diameter × inner diameter × length) : φ6×φ4×1000mm				**NEW DYNA Cylinder Series** Pressure : 0.5MPa Load ratio : 50% Cylinder stroke : 150mm Piping (outer diameter × inner diameter × length) : φ10×φ7.5×1000mm			
		10	16	20	25	32	40	50	63	80	100
F10 series Effective area 5mm²	150	※									
	300										
	450		※					★			
	600										
	750			★							
F15 series Effective area 10mm²	150	※									
	300										
	450		※					★	★		
	600										
	750			★							
F18 series Effective area 18mm²	150	※									
	300										
	450		※					★	★	★	
	600										
	750			★							

★ : Use each cylinder type within their operating speed range.
※ : Cylinder speed is limited by the connection port orifice size.
Remark : For load ratio of other than 50%, see the "Cylinder Operating Speed" in the specifications for each valve.

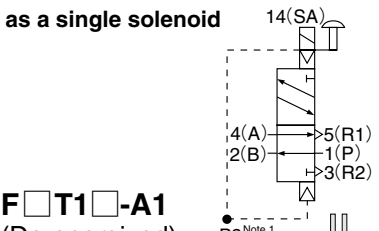
2. Cylinder mounting direction : Horizontal (Roller bearing: Friction coefficient $\mu = 0.1$)

Series	Cylinder speed mm/s	Cylinder series／Conditions／Cylinder bore size mm									
		NEW Pen Cylinder Series Pressure : 0.5MPa Load ratio : 50% Cylinder stroke : 150mm Piping (outer diameter × inner diameter × length) : φ6×φ4×1000mm		**Slim Cylinder Series** Pressure : 0.5MPa Load ratio: 50% Cylinder stroke : 150mm Piping (outer diameter × inner diameter × length) : φ6×φ4×1000mm				**NEW DYNA Cylinder Series** Pressure : 0.5MPa Load ratio : 50% Cylinder stroke : 150mm Piping (outer diameter × inner diameter × length) : φ10×φ7.5×1000mm			
		10	16	20	25	32	40	50	63	80	100
F10 series Effective area 5mm²	150										
	300	※									
	450		※					★			
	600										
	750			★	★						
F15 series Effective area 10mm²	150										
	300	※									
	450		※					★	★		
	600										
	750			★	★	★	★				
F18 series Effective area 18mm²	150	※									
	300	※									
	450		※					★	★	★	
	600										
	750			★	★	★	★				

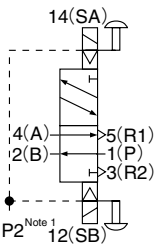
★ : Use each cylinder type within their operating speed range.
※ : Cylinder speed is limited by the connection port orifice size.
Remark : For load ratio of other than 50%, see the "Cylinder Operating Speed" in the specifications for each valve.

5-port, 2-position

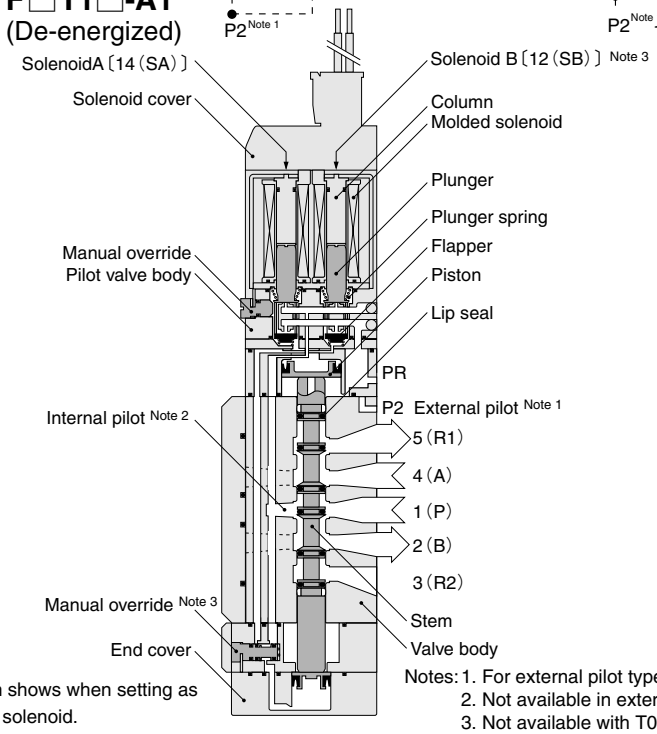
When set as a single solenoid



When set as a double solenoid



F□T1□-A1
(De-energized)



※Illustration shows when setting as the single solenoid.

Notes: 1. For external pilot type
2. Not available in external pilot type
3. Not available with T0 type

Major Parts and Materials

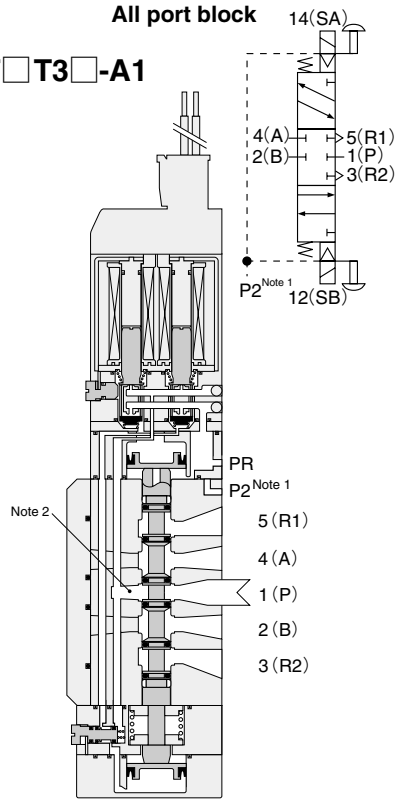
Parts			Materials
Valve	Body		Aluminum die-cast
	Stem		Aluminum alloy
	Lip seal		Synthetic rubber
	Flapper		
	Sub-base		Aluminum alloy (anodized)
	Plunger		Magnetic stainless
	Column		
	End cover		Plastic
Manifold	Body	Monoblock	Aluminum alloy (anodized)
		Split type	Plastic
	Block-off plate		Steel (nickel plated)
	Seal		Synthetic rubber

5-port, 3-position

〔Both 14 (SA) and 12 (SB) are de-energized〕

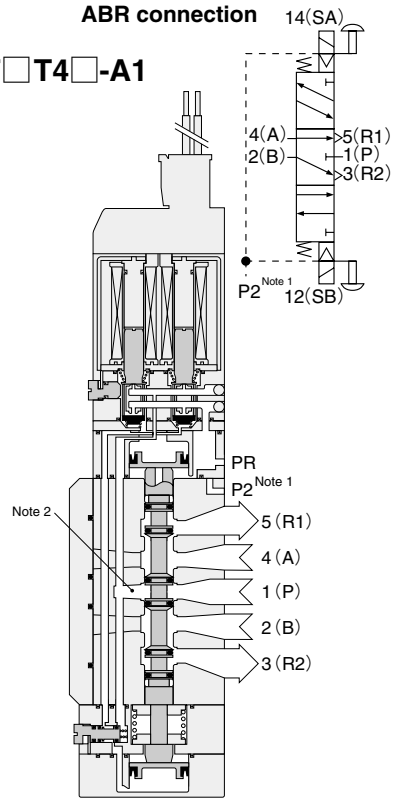
All port block

F□T3□-A1



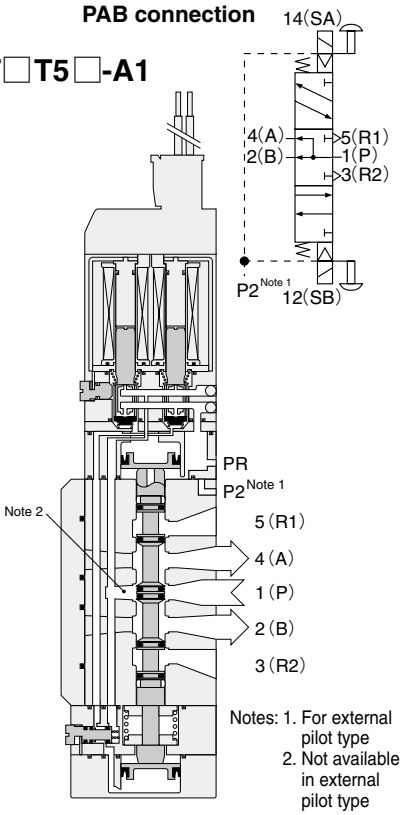
ABR connection

F□T4□-A1



PAB connection

F□T5□-A1



Notes: 1. For external pilot type
2. Not available in external pilot type

Solenoid

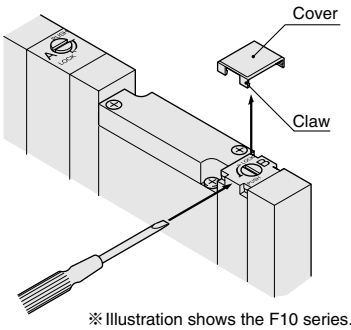
Single and double solenoid switching procedure

By switching the manual override, model **F□T1** (2-position valve) can be used as either a single solenoid valve or a double solenoid valve (not possible with 3-position valve). Note that the **F□T1** is set to single solenoid specification at time of delivery.

Switching from a single solenoid valve to a double solenoid valve

1. As shown in Fig.1, insert the tip (—) of a small screwdriver into the gap between the valve and the cover, and peel it off and remove the cover.

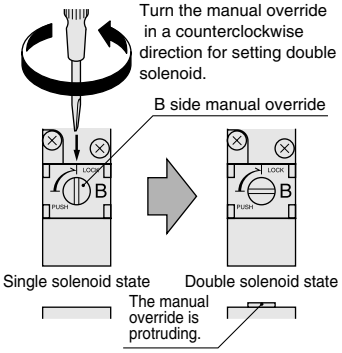
Caution: As shown in Fig.1, be sure to insert a small screwdriver from the side of the valve cover. The cover claw may be damaged when the cover is removed from the direction of the valve stem. Never remove the cover for any reason other than the valve function switching.



※Illustration shows the F10 series.

〔Figure 1〕

2. As shown in Fig.2, use a small screwdriver, etc., to turn the manual override on the B side by 90 degree in a counterclockwise direction, so that the manual override slit is horizontal, as shown on the right side of the figure, then the unit can now be used as a double solenoid valve. When using as a double solenoid valve, the override is used as the manual override for the B side.


Turn the manual override in a counterclockwise direction for setting double solenoid.
B side manual override
Single solenoid state
Double solenoid state
The manual override is protruding.

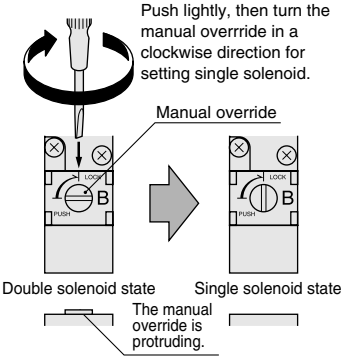
〔Figure 2〕

Caution: When using as a double solenoid valve, do not attach the cover that was removed in Fig. 1.

Switching from a double solenoid valve to a single solenoid valve

As shown in Fig.3, use a small screwdriver, etc., to push lightly against the manual override, and then turn it by 90 degree in a clockwise direction, so that the manual override slit is vertical, and then attach the cover.

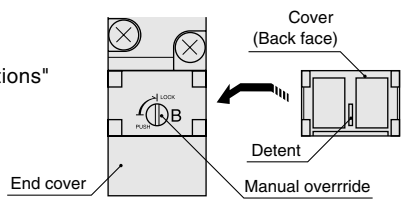
Caution: The cover has directionality (F15 and F18 series only). When attaching, always align the detent on the back of the cover with the manual override button's slit, as shown in Fig.4.


Push lightly, then turn the manual overrride in a clockwise direction for setting single solenoid.
Manual override
Double solenoid state
Single solenoid state
The manual override is protruding.

〔Figure 3〕

Note about wiring for above switching

See the "Wiring instructions" at right.



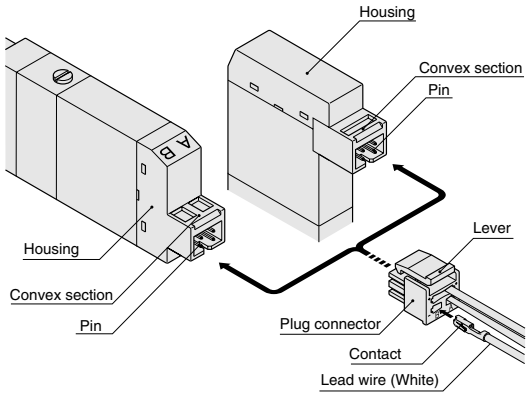
〔Figure 4〕

Wiring instructions (When using as a single unit, non-plug-in type manifold)

1. Attaching and removing plug connector

Use fingers to insert the connector into the pin, push in until the lever claw catches on the convex section on the connector housing, and complete the connection.

To remove the connector, squeeze the lever along with the connector, lift the lever claw up from the convex section on the housing, and pull out.



Cautions: 1. When removing the connector, confirm that the lever claw is positively disengaged from the convex section before pulling out. The housing may be damaged if it is pulled out while engaging with the convex section.

2. The plug connector lead wires for model **F□T1** (2-position valve) are set to single solenoid specification at time of delivery. (For types with plug connector)
When switching from a single solenoid to a double solenoid specification for use, disconnect the plug connector from the valve, check the hook directions on the lead wire (white) with contacts, and then insert the lead wire into the plug connector's B side□ hole (see illustration above). Use the same procedure to switch the manifold type single solenoid to double solenoid specification.

3. When using the plug-in type manifold, be aware that even if the valve has been switched to a double solenoid, no power will be supplied to the B side solenoid unless the valve base wiring are set to the double wiring.

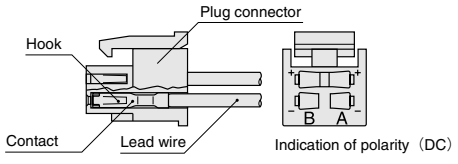
2. Attaching and removing plug connector and contact

●Attaching

Insert the contact with a lead wire into a plug connector □ hole until the contact hook catches and is secured to the plug connector. Confirm that the lead wire cannot be easily pulled out. (See below)

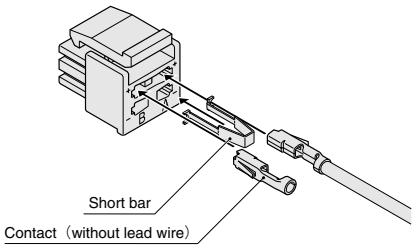
●Removing

To remove, insert a tool with a fine tip (such as a small screwdriver) into the rectangular hole on the side of the plug connector to push up on the hook of the contact, and then pull out the lead wire. When reusing the contacts, restore the hook back so that they spread outward.



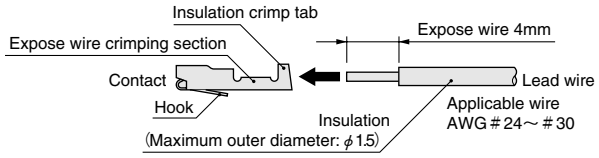
3. Common terminal and short bar

A short bar is attached to the plug connector to ensure that the solenoid A and B wiring are plus common. Do not remove the short bar.



4.Crimping of connecting lead wire and contact

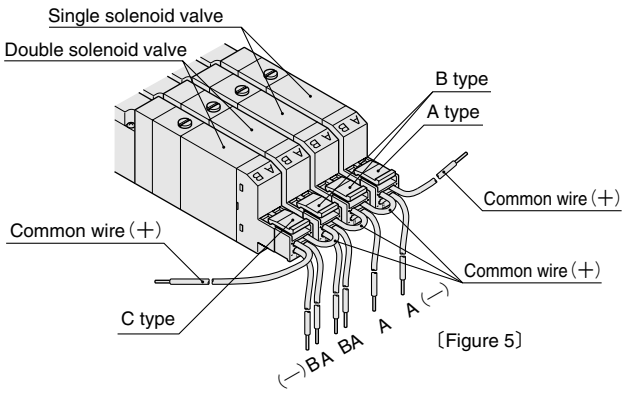
To crimp lead wires into contacts, strip off 4mm of the insulation from the end of the lead wire, insert into the contact, and crimp it. Be sure to avoid catching the insulation on the expose wire crimping section.



Cautions: 1. Do not pull hard on the lead wire.
2. Always use the dedicated tool for crimping of connecting lead wire and contact.
Contact: Model 706312-2MK Manufactured by Sumiko Tech, Inc.
Crimping tool: Model F1 (For 706312-2MK) Manufactured by Sumiko Tech, Inc.

5.Common connector assembly for manifold

Using common connector assembly for the solenoid valve for manifold provides common wiring for all solenoid valves and greatly reduces wiring work.

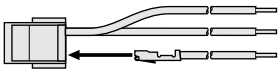


〔Figure 5〕

6.Common connector assembly (plus common specification)

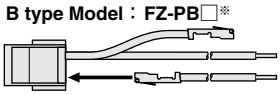
If wanting to add units after mounting to the connector assembly for manifold, order the common connector assembly shown below.

A type Model : FZ-PA□※



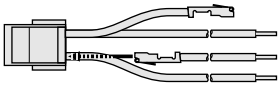
Red Common wire (+)
Black A side (−)
White B side (−) (Insert when using as a double solenoid)

B type Model : FZ-PB□※



Red Common wire (+)
Black A side (−)
White B side (−) (Insert when using as a double solenoid)

C type Model : FZ-PC□※

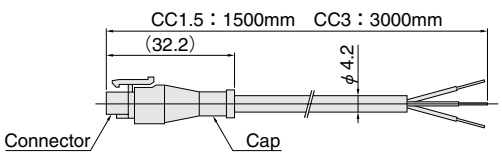


Red Common wire (+)
Black A side (−)
White B side (−) (Insert when using as a double solenoid)
Red Common wire (+)

Note:**FZ0-P**□□ has no white wires. ※: Lead wire length **Blank**: 300mm
3: 3000mm

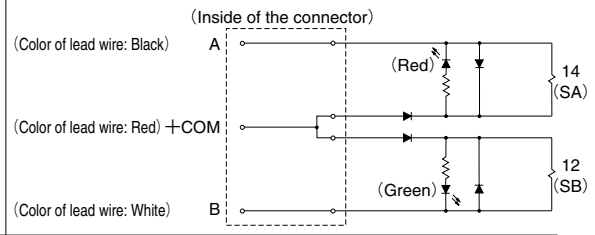
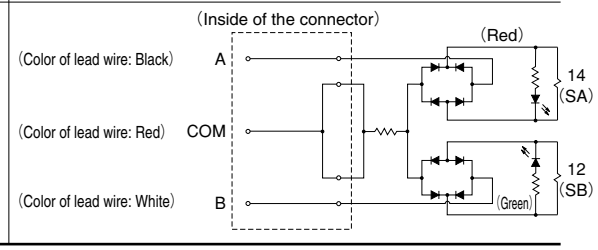
The common connector types are determined by looking from the lead wire side, the right end one is A type, the left end one is C type, and all others are B type. (see Fig. 5)

7.Cabtire cable



Caution: Be aware that these are not dust-proof and drip-proof specifications.

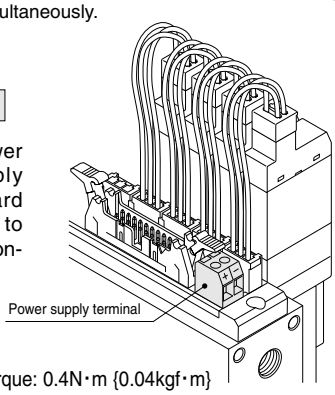
Internal circuit

Voltage specification	Internal circuit
DC24V DC12V	
AC100V	

Cautions: 1. Do not apply megger between the pins.
2. For switching wiring between a single solenoid and a double solenoid, see the "Wiring instructions" item on p. 512.
3. Common wiring set for double solenoid in DC specification is plus common specification.
4. Leakage current inside the circuit could result in failure of the solenoid valve to return to the rest position or in other erratic operation. Always use at less than the allowable leakage current shown in the solenoid specifications on p. 568, 586, and 604. If circuit conditions, etc., cause the leakage current to exceed the maximum allowable leakage current, consult us.
5. For the double solenoid specification, avoid energizing both solenoids simultaneously.

PC board manifold

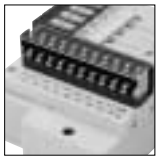
When connecting a power line to the power supply terminal on the PC board manifold, pay attention to the following points to connect.



Terminal screw tightening torque: 0.4N·m {0.04kgf·m}
Stripped wire length: 7mm
Connecting wire size: 0.13～2.5mm²
AWG: No.26...14

If planning to use pressing terminals, use bar terminals.
Recommended pressing terminals (bar terminals): Manufactured by Nichifu, Inc.
Model BT1.25-9-1 (for 0.25～1.65mm²)

Wiring of terminal block



Be aware of the terminal screw tightening torques. Overtightening beyond the tightening torque could result in breakage.

Terminal screw tightening torque: Max. 49.0N·cm {5.0kgf·cm}.

Precautions for use of the double solenoid

When using models **F□T1** or **F□T2** (2-position valve) as double solenoid valves, be aware that energizing the A side solenoid or pushing the manual override on the A side while in a locked state, while energizing the solenoid on the B side, or while pushing the B side manual override, cause the valve to switch over. (At this time, the valve will operate as the same state as for the single solenoid valve.)

Manual override

Manual override (both locking and non-locking type)

To lock, use a small screwdriver to push down on the manual override all the way down and turn it clockwise 90 degrees. When locked, turning the manual override 90 degrees in a counterclockwise direction, releases a spring on the manual override, returns it to the original position and releases the lock. To operate the unit in the same way as the non-locking type, leave the manual override unturned.

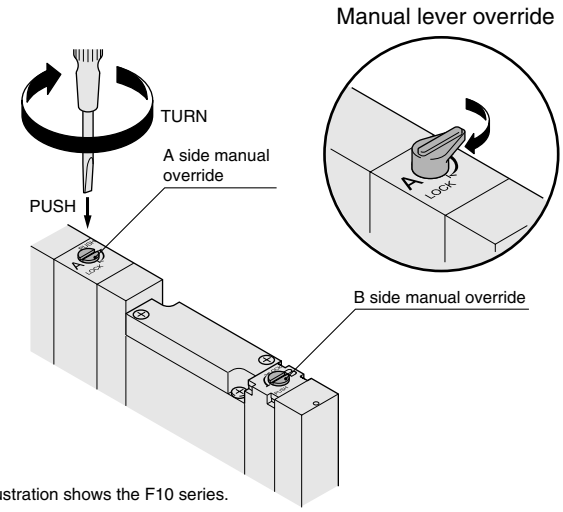
Cautions:
1. The F series are pilot type solenoid valves. As a result, the manual override cannot switch the main valve without supplying air from the P(P2) port.
2. Always release the lock on the manual override before commencing normal operation. For details (excluding the 3-position valve), see the "Single and double solenoid switching procedure" on p. 512.
3. Do not attempt to operate the manual override with a pin or other object having an extremely fine tip. It could damage the manual override button.
4. Take care to avoid excessive turning of the manual override, which could damage it.
5. If operating the solenoid valve's manual override for maintenance, etc., always confirm that the solenoid valve's override button has been restored to its original state, and that the main valve is in the necessary switching position before restarting operations.

Manual lever override (both locking and non-locking type)

(made to order)

To lock, use fingers to push down on the lever all the way down and turn it clockwise 90 degrees. When locked, turning the manual lever override 90 degrees in a counterclockwise direction, releases a spring on the manual override, returns it to the original position, and releases the lock. To operate the unit in the same way as the non-locking type, leaving the lever unturned.

Caution: Model **F□T1** (2-position valve) has a manual lever override on the A side and a manual override (with cover) on the B side.
Model **F□T2** has a manual lever override on the A side only, and a manual override on the B side.
The 3-position valve has manual lever override on both the A and B sides.



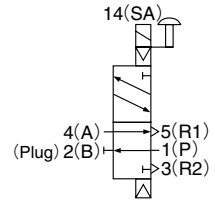
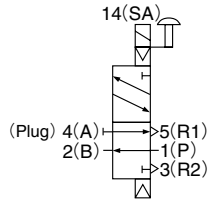
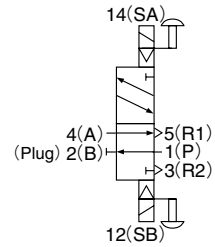
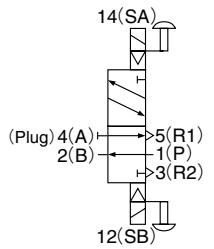
※Illustration shows the F10 series.

Valve function

3-port valves

When using the 5-port valve as a 3-port valve

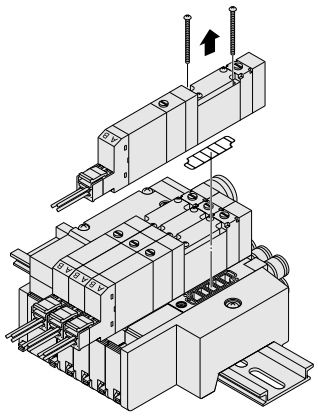
In the F10, F15, and F18 series, plug one of the output ports (A or B) enabling to use as a normally closed (NC) or normally open (NO) 3-port valve. In this case, leave the exhaust ports (R1 and R2) in the open status. This can also be applied to a double solenoid-type 3-port valve.

Plug position	Plug the B port	Plug the A port
Switching type	Normally closed (NC)	Normally open (NO)
For single solenoid setting		
For double solenoid setting		

Manifold

Attaching and removing valves

To remove the valve body from the sub-base or manifold, loosen the valve mounting screws (2 places), and lift up in the direction of the arrow (see diagram at right). For mounting, conduct the same procedure in reverse. The recommended tightening torques for the valve mounting screws are as shown below.



※Illustration shows the F10 series. (split manifold)

N·cm{kgf·cm}

Series	Recommended tightening torque
F10	17.6 {1.8}
F15	49.0 {5.0}
F18	49.0 {5.0}

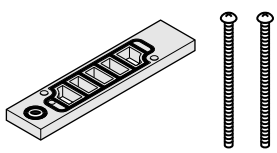
Sub-plate (service part)

A sub-plate is provided as a service part required for mounting new type valves on the earlier type of split manifold plug-in type, and the earlier type of serial transmission compatible manifold.
For details, see "Precautions for Use of Partial Specification Changes (for Deliveries after January 30, 1997)"(p. 528～529).

Sub-plate **(sub-plate, gasket, O ring, 2 mounting screws)**

F □ Z - S

Valve size
10：10mm width
15：15mm width
18：18mm width



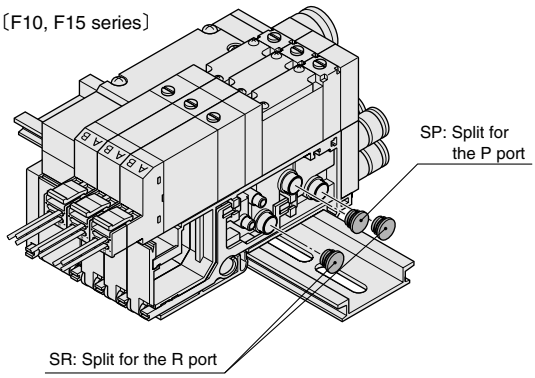
Split

In the split manifold, inserting splits to the P and R ports between each of the stations isolate the air path between stations equipped with splits and stations with smaller station numbers. Note, however, that a piping block must be placed on both ends.

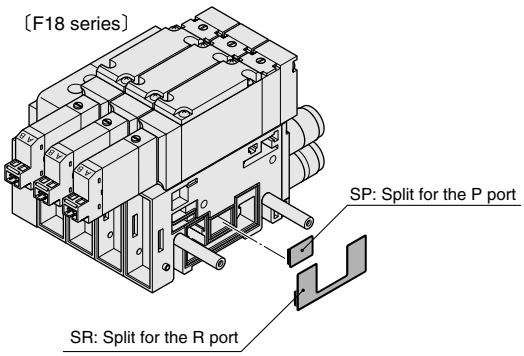
- Splits for the P port (Mode : **F□Z-SP**) — Can supply two different pressures.
- Splits for the R port (Model : **F□Z-SR**) — Can isolate exhaust air . (prevents exhaust interference)
- Splits for the P and R ports (Model : **F□Z-SA**) — Can supply two different pressures, and can isolate exhaust air. (prevents exhaust interference)

※□ denotes valve size.

〔F10, F15 series〕



〔F18 series〕



Caution: Mounting splits requires the disassembly and re-assembly of manifolds. See the disassembly diagram, unit adding procedure, and cautions found on p. 518～523.
Note, however, that since the F18 series serial transmission compatible manifold cannot be disassembled, splits cannot be mounted later.

Precautions for using manifold

Observe the following precautions when using the split type and serial transmission compatible manifold. (Except monoblock manifold and PC board manifold)

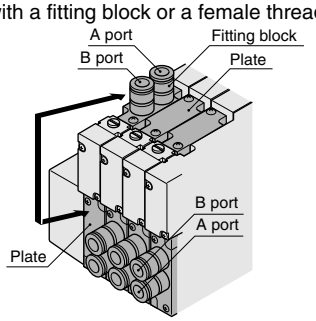
- When using the direct piping type
  Avoid valve use at an operating frequency exceeding 2Hz, as such use can result in heat-related breakdowns.
- When using the base piping type
  When plugs have been attached either or both on the A and B ports, avoid valve using at an operating frequency exceeding 2Hz, as such use can result in heat-related breakdowns.

Fitting

Piping

1. Procedure for replacing the base piping type and the direct piping type

Base piping and direct piping re-combinations can be done by replacing the plate with a fitting block or a female thread block. (see Fig. 6).

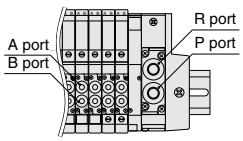


〔Figure 6〕

※Illustration shows the F10 series.

Cautions: 1. Firmly tighten the screws after completing a re-combination.
2. Conduct piping carefully in regards to the positions of each connection port (see Figs. 7, 8).
3. Be careful about losing the gaskets while conducting plate replacement.

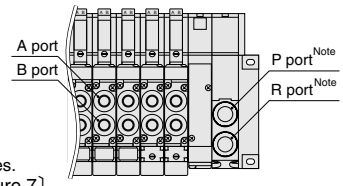
- **Direct piping type**
  For **F10**, **F15** series



※Illustration shows the F10 series.

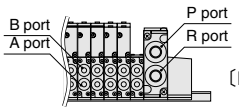
〔Figure 7〕

For **F18** series



Note: Be aware that the positions of the P and R ports are reversed from the positions in the F10 and F15 series.

- **Base piping type**
  Port positions for **F10**, **F15**, **F18** series are as shown in Fig. 8.



〔Figure 8〕

※Illustration shows the F10 series.

2. Attaching fittings to female thread blocks

When attaching fittings to female thread blocks, fasten with the tightening torques shown below or less.

Screw size	Tightening torque N·cm {kgf·cm}
Rc 1/8	686 {70}
Rc 1/4	882 {90}

※For M5, attach at the torques recommended for the fittings.

3. Attaching fittings to piping blocks〔F18Z(G)-PM(P)〕

To attach fittings to the female thread type piping block of the F18 series, remove the piping block section (the triangular-shaped block section), use a spanner to the metallic sections of both the P and R ports to fix them in place, and then screw in the fittings.The tightening torque for the mountings (two M3 screws) of the piping block section after the fittings have been attached should be 49.0 N·cm {5.0kgf·cm}.

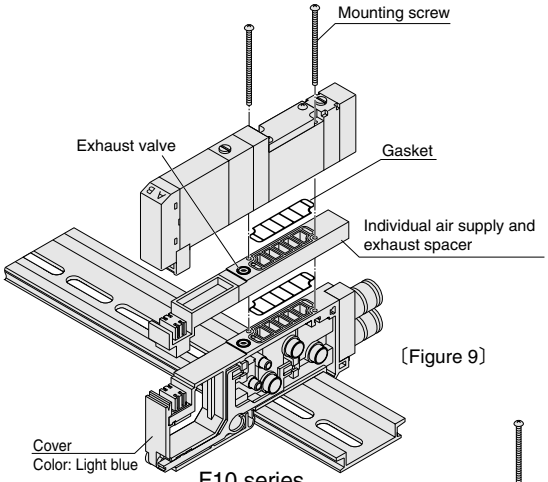
Precautions for use of individual air supply and exhaust spacers

By mounting an independent air supply or exhaust spacer on the manifold, air supply or exhaust can be operated individually on the unit. Note that when spacers are used, the effective area is reduced by about 30%. If mounting additional spacers to an existing unit, observe the following items.

●Spacer mounting method (F10 series)

① Loosen the valve mounting screws for the individual air supply or exhaust spacer, and remove the valve.
② Install the gaskets and exhaust valve provided with the individual air supply or exhaust spacer, use the mounting screws provided to fix the valve on the manifold. (see Fig. 9)

Remark: When attaching fittings to the F10 spacer, use the recommended fittings shown below.
TSH4-M5M, TSH4-M5, TSH6-M5M, TS4-M50, TS4-M5M



〔Figure 9〕

F10 series

(Illustration shows the split manifold plug-in type)

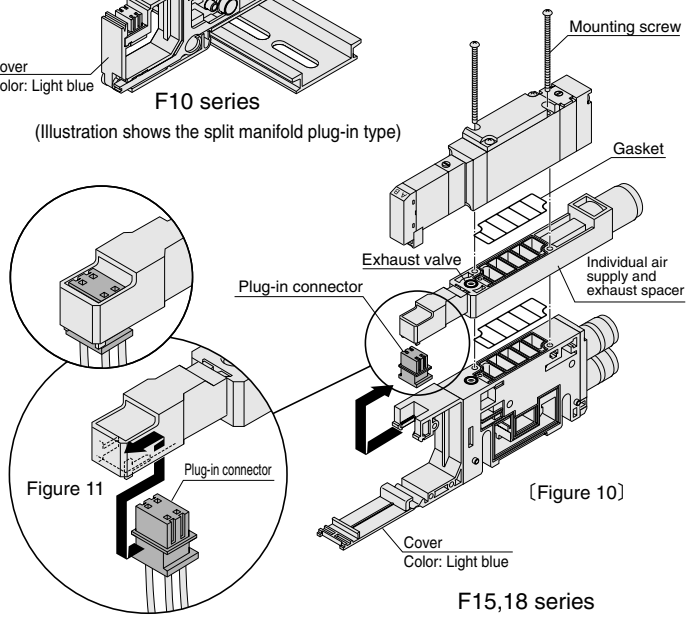
●Spacer mounting method (F 15, 18 series)

① Loosen the valve mounting screws for the individual air supply or exhaust spacer, and remove the valve.
② Open the cover of the manifold, and pull out the plug-in connector in the forward direction. (For the plug-in type) (see Fig. 10)
③ Insert the plug-in connector firmly into the connector attaching section of the individual air supply or exhaust spacer, and then close the cover, while watching to ensure that lead wires are not caught with the cover. (For the plug-in type) (see Fig. 11)
④ Attach the gasket and exhaust valve provided with the individual air supply or exhaust spacer, and use the mounting screws provided to mount the valve on the manifold.

Cautions: **1.** Locations where the spacers are mounted make the valve height higher by the height of the spacer. (See the dimensions below)

2. The F series split manifold plug-in type, and the serial transmission compatible manifold, have undergone partial specification changes, with the result that earlier and new types exist. A change in the shape of the connector receptacle means that it cannot be mounted on the earlier type manifold. Use the color of the cover to identify the new or earlier types (see Figs. 9 and 10).

Item / Type	Earlier type of manifold	New type of manifold
Color of cover	Ivory	Light blue



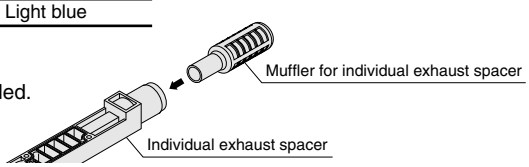
〔Figure 10〕

F15,18 series

(Illustration shows the split manifold plug-in type)

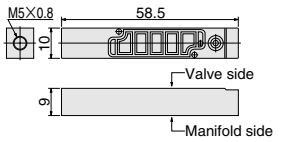
●Muffler for individual exhaust spacer

Muffler for the independent exhaust spacer is provided.
For outer dimensions, see p. 583, 601, and 618.

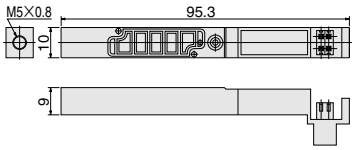


●Dimensions

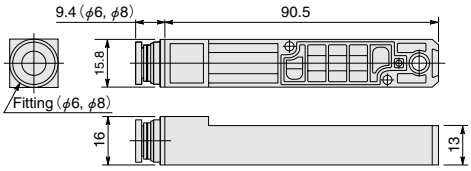
F10Z-N□ □ (For F10 series) Mass 7g



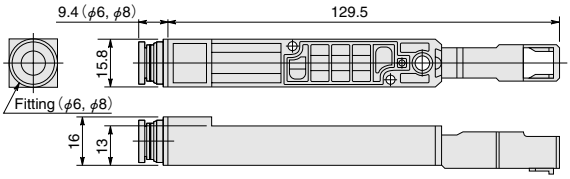
F10Z-P□ □ (For F10 series) Mass 9g



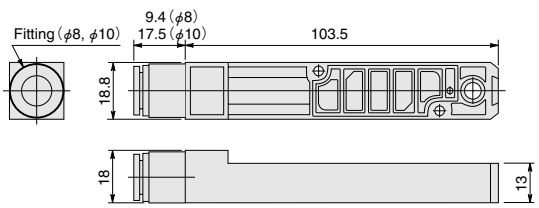
F15Z-N□ □ (For F15 series) Mass 26g



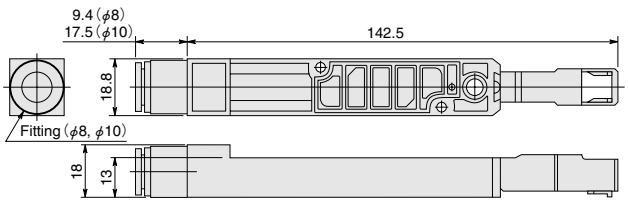
F15Z-P□ □ (For F15 series) Mass 29g



F18Z-N□ □ (For F18 series) Mass 41g



F18Z-P□ □ (For F18 series) Mass 44g

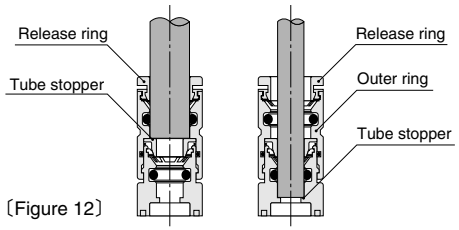


Dual-use different size fitting (With different size fitting block)

The F series different size fitting blocks use dual-use fittings for different tube sizes, which can connect to tubes of two different outer diameter. (Excluding the P and R ports of the **F18** Series)

●Attaching and removing tubes

For tube connection, insert an appropriate size tube as far as contacting the tube stopper, and lightly pull on it to check the connection.
For tube removal, push the tube against the tube stopper, then for large tube sizes, push on the release ring and at the same time pull the tube out. For small tube sizes, push on the outer ring and at the same time pull the tube out. (See Fig. 12)



〔Figure 12〕

Large tube size **Small tube size**

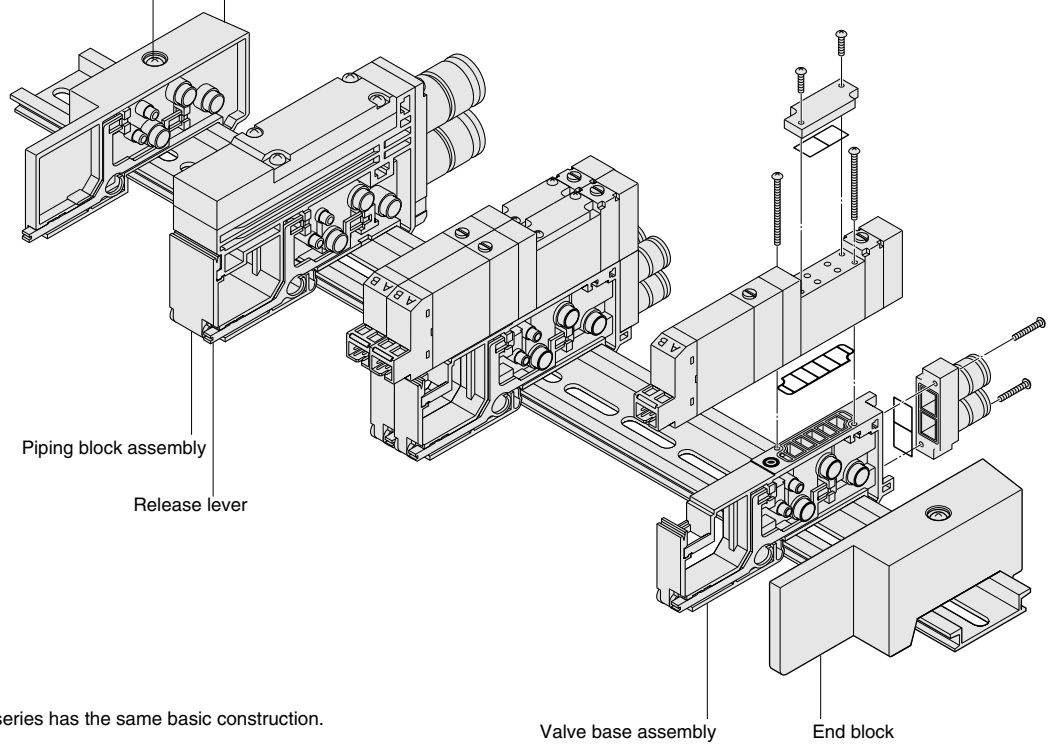
Cautions:
1. Use tubes with an outer diameter tolerance within ±0.1mm of the nominal diameter, and a degree of out-of-ellipticity (difference between long diameter and short diameter) is 0.2mm or less.
2. Only use tubes without scratch is on the outer surface. If scratch is produced during repeated use, cut off the scratched section.
3. Do not bend the tube sharply near the fittings. The minimum bending radius for nylon tubes is as shown in the table below.
4. When attaching or removing tubes, always stop air supply. In addition, always confirm that air has been completely exhausted from the manifold.

mm

Tube size	Minimum bend radius
ϕ 4	20
ϕ 6	30
ϕ 8	50
ϕ 10	80

F10, 15 Series Disassembly Diagram of Split Manifold Non-Plug-in Type

Figure 1 Disassembly example: For F10 series



Note: The F series has the same basic construction.

Manifold Unit Adding Procedure (F10 and F15 Series Non-Plug-in Type)

■Adding valve base unit

Use the valve base assembly to add units.

① Loosen the fixing screw on the end block until the end block can slide (see Fig. 1).

Note: For the 15 series, loosen the fixing screws on both the left and right end blocks (three screws each).

② Press the release lever on the valve base assembly where the new unit is to be added, and disconnect the link between the bases.

③ Mount the valve base assembly to be added on the DIN rail shown in Fig. 2.

④ Return the release lever of the valve base assembly disassembled in Step ② to its original position, as shown in Fig. 3. In addition, set the release lever for the valve assembly being added to the same position, then press the bases together until they connect and click into place.

⑤ Press the bases together from both sides to ensure that there is no gap between them, and then tighten the end block fixing screws, and mount the units in place on the DIN rail (see Fig. 5). Tightening torque: 128N·cm {13kgf·cm}

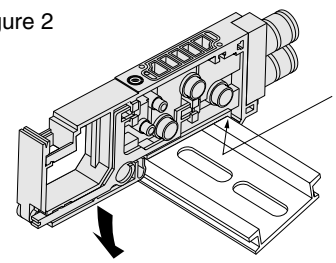
Notes: 1. Always follow the steps shown in Fig. 4 when tightening the end block fixed screws for the F15 series.
2. Confirm that the DIN rail mounting hooks are securely attached to the DIN rail. (see Fig. 5).

【Caution】

- Always cut off the power and air supply before working. In addition, always confirm that air has been completely exhausted from the manifold.
- Be careful not to be caught or lose gaskets.
- Before supplying air to the manifold, always confirm that the bases are connected, the end block fixing screws are tightened, etc. Supplying air when either of the end blocks are not securely fixed to the DIN rail could result in air leaks or in separated manifold bases.
- When there are large number of valves simultaneously supplying air to the secondary side, or when there is a large number of valve units, we recommend using two sources of air supply and exhaust (on each side).

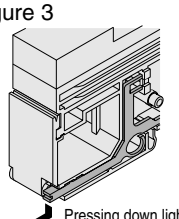
Note that adding units of the piping block assembly is conducted in the same way as adding units of the valve base assembly.

Figure 2



First let the hook catch on this side, and then press down on the base to fit it into the DIN rail.

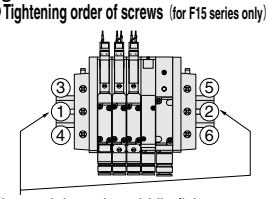
Figure 3



Pressing down lightly on the release lever will return it to its forward position.

Figure 4

●Tightening order of screws (for F15 series only)

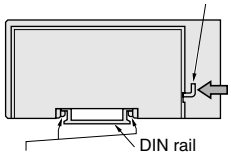


Always tighten the middle fixing screw of each end block first.
Tightening torque: 128N·cm {13kgf·cm}

Figure 5

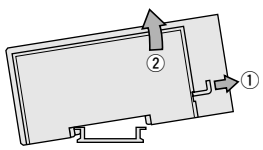
●Fixing the end block in place

Tighten the screw with the L-shaped hook pushed in.



DIN rail
Use hooks on both sides to fix the DIN rail in place.

●Removing the end block from the DIN rail

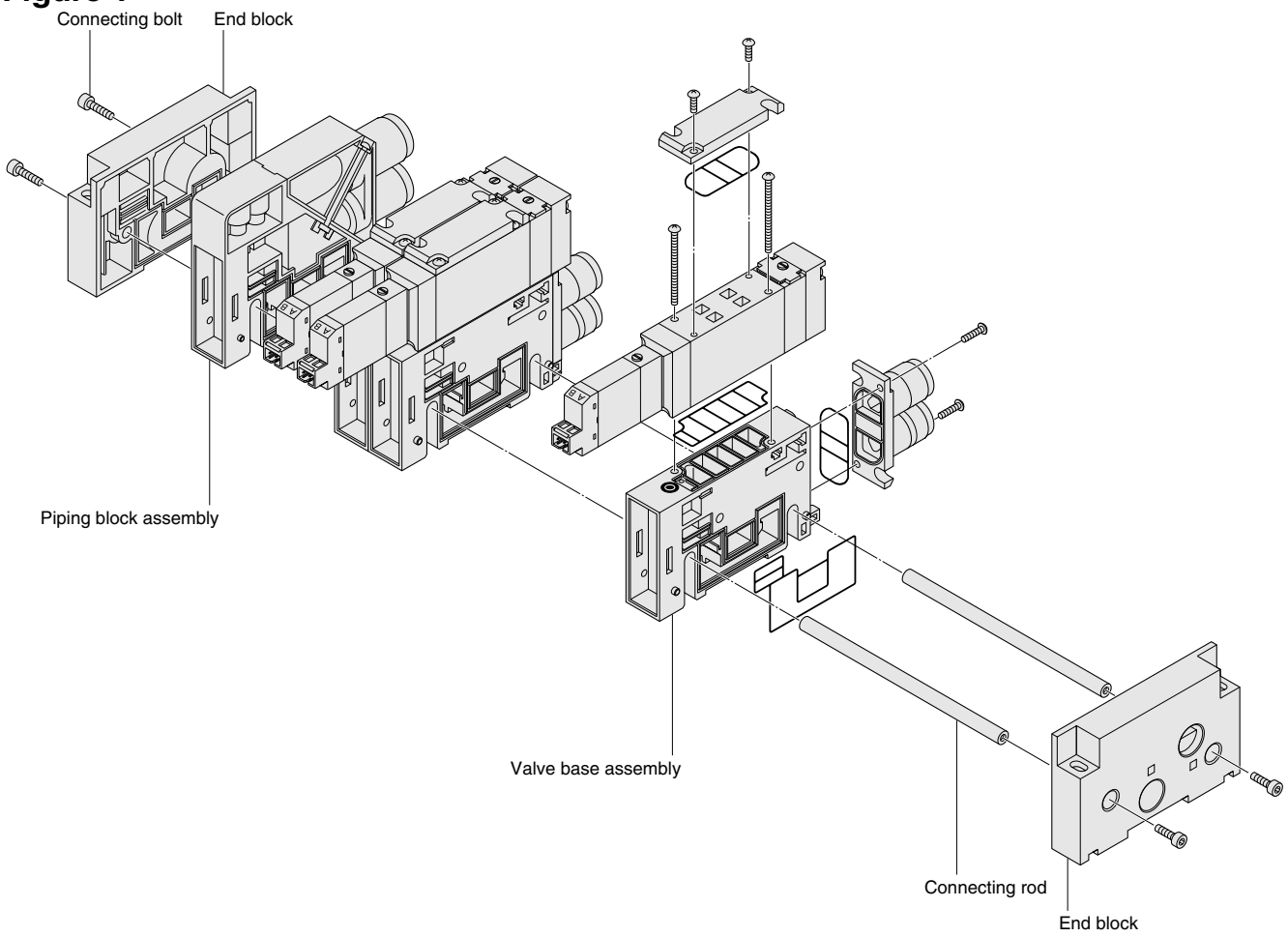


For mounting, follow in reverse the steps taken for removal.

Caution: The new end block for the F10 series does not include an L-shaped hook. To remove the end block from the DIN rail, loosen the end block fixing screws, and lift it off. (The switch to the new type will commence in October 2000)

F18 Series Disassembly Diagram of Split Manifold Non-Plug-in Type

Figure 1



Manifold Unit Adding Procedure (F18 Series Non-Plug-in Type)

■Adding valve base unit

Use the valve base assembly and unit-adding connecting rod to add units.

① Remove the connecting bolts on the end block and separate the end block from the manifold (see Fig. 1).

② Install the connecting rods to be added, open up spaces where the units are being added, fit gaskets into the valve base assemblies being added, and place the units on top of the connecting rods. At this time, securely mount so that no space is left between the added valve base assemblies and the upper surface of the connecting rods.

③ Fit gaskets into the end blocks removed in Step ①, and retighten the connecting bolts. At this time, use a hexagonal bar wrench to hold the connecting bolts on the opposite side in place so as to prevent the bolts from slipping while tightening them into place. Tightening torque: 147N·cm {15kgf·cm}

【Caution】

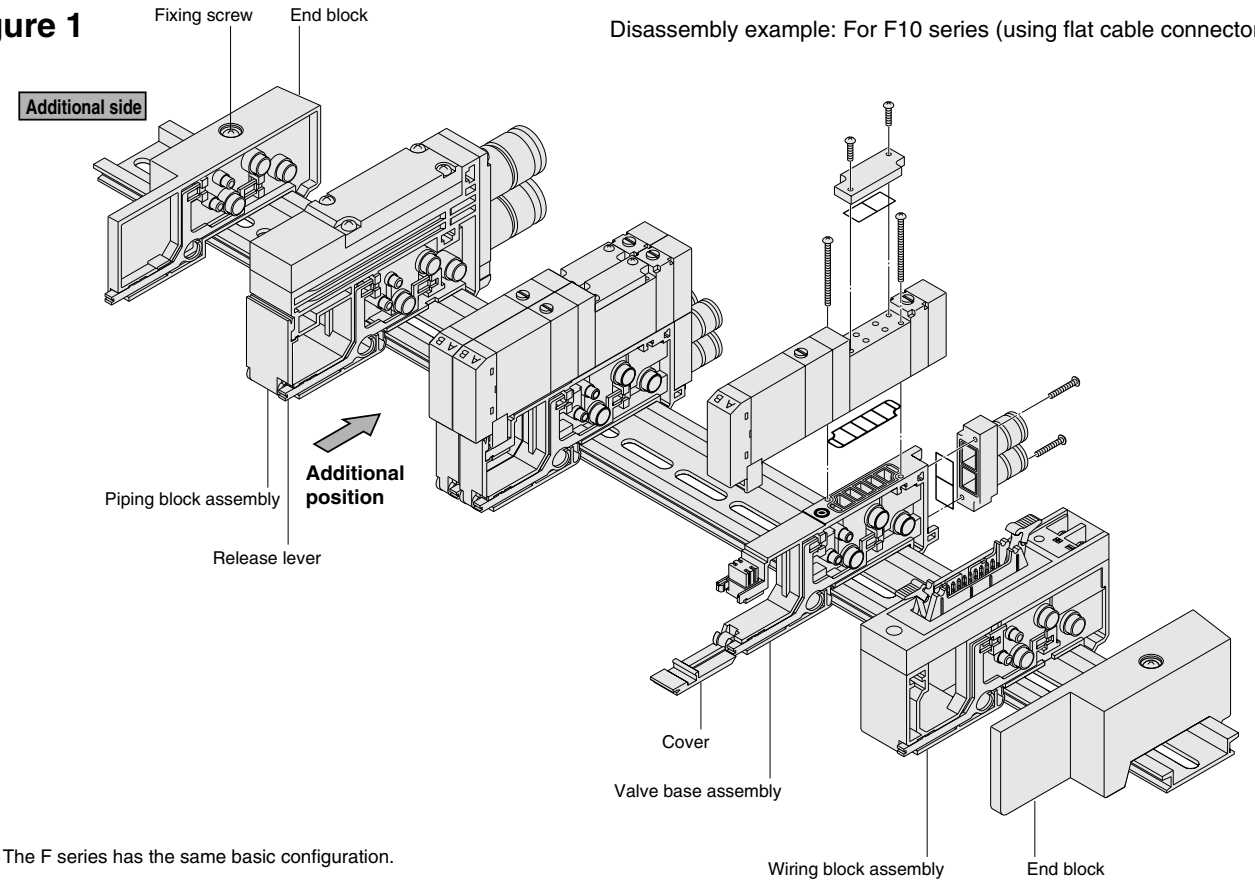
- Always cut off power and air supply before working. In addition, always confirm that air has been completely exhausted from the manifold.
- Be careful not to be caught or lose gaskets.
- Before supplying air to the manifold, always confirm that the bases are securely connected, the end block connecting bolts on both sides are tightened, etc. Supplying air when either of the end blocks is not securely fixed in place could result in air leaks or in separated manifold bases.
- When there are large number of valves simultaneously supplying air to the secondary side, or when there is a large number of valve units, we recommend to use two sources of air supply and exhaust (on each side).

Note that adding units of the piping block assembly is conducted in the same way as adding units of the valve base assembly.

F10, 15 Series Disassembly Diagram of Split Manifold Plug-in Type

Figure 1

Disassembly example: For F10 series (using flat cable connector)



Note: The F series has the same basic configuration.

Manifold Unit Adding Procedure (F10 and F15 Series Plug-in Type)

■Adding valve base unit

Use the valve base assembly to add units.

① Loosen the fixing screw on the end block until the end block can slide (see Fig. 1).

Note: For the F15 series, loosen the fixing screws on both the left and right end blocks (three screws each).

② Add units on the side shown in Fig. 1 (with the solenoid on top and the right). To split up at additional unit location, push the piping base assembly's release lever, and release the connections between bases.

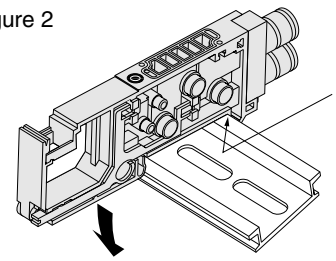
③ Mount the valve base assembly to be added on the DIN rail shown in Fig. 2.

④ Return the release lever of the piping block assembly disassembled in Step ② to its original position, as shown in Fig. 3. Put the release levers on the additional valve bases in the same position, and press all the bases together until they click into place, all the while watching to ensure that lead wires are not caught by the cover.

⑤ Press the bases together from both sides to ensure that there is no gap between them, and then tighten the end block fixing screws, and fix the units in place on the DIN rail (see Fig. 5). Tightening torque: 128N·cm {13kgf·cm}

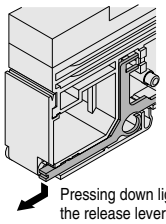
Notes: 1. Always follow the steps shown in Fig. 4 when tightening the end block fixing screws for the F15 series.
2. Confirm that the DIN rail mounting hooks are securely attached to the DIN rail. (see Fig. 5).

Figure 2



First let the hook catch on this side, and then press down on the base to fit it into the DIN rail.

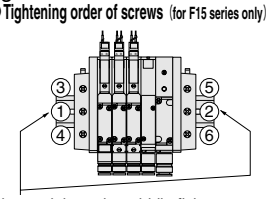
Figure 3



Pressing down lightly on the release lever will return it to its forward position.

Figure 4

●Tightening order of screws (for F15 series only)

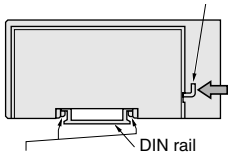


Always tighten the middle fixing screw of each end block first.
Tightening torque: 128N·cm {13kgf·cm}

Figure 5

●Fixing the end block in place

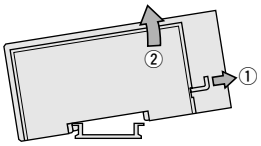
Tighten the screw with the L-shaped hook pushed in.



DIN rail

Use hooks on both sides to fix the DIN rail in place.

●Removing the end block from the DIN rail



For mounting, follow in reverse the steps taken for removal.

Caution: The new end block for the F10 series does not include an L-shaped hook.To remove the end block from the DIN rail, loosen the end block fixing screws, and lift it off. (The switch to the new type will commence in October 2000)

■Wiring Procedure

① Use a minus screwdriver to open all of the covers (see Fig. 1). Loosen the mounting screws of the valves next to the valve bases to be added, remove the valves, and remove the plug-in connectors. (see Fig. 6)

② End terminal lead wires (short red wires) are inserted into pin insert section (No.3) of the plug-in connectors removed in step ①. (see Fig. 7)

(At time of delivery, end terminal lead wire is inserted into the plug-in connectors of the end unit valve.) Remove this end terminal lead wire, and insert it into the insert section (No.3) of the plug-in connector for the valve base assembly to be added. Next, insert the common wire (red) of this plug-in connector into the insert section (No.3) of the removed plug-in connector.

Note: When inserting the lead wire, confirm that the short bar of the plug-in connector's common wire insert section has been inserted.

③ Install each of the plug-in connectors wired in step ② to the valve base, and mount the valve.

④ Remove the wiring block mounting screws and place them in the position shown in Fig. 8, then connect the lead wire (white) of the added valve base after confirming the pin location. (For details, see the detailed diagram of the wiring block internal connections on p. 524)

⑤ Return the connector brackets to their original position, and tighten the wiring block mounting screws in place, then close the cover while watching to ensure that the lead wires are not caught by the cover.

【Caution】

- Always cut off the power and air supply before working. In addition, always confirm that air has been completely exhausted from the manifold.
- When removing lead wires from the plug-in connector, use an item with a fine tip (such as a small screwdriver) to press lightly on the contact hook section from a window on the side of the plug-in connector, and pull out the lead wire. If re-inserting the lead wire to the connector, spread the contact hooks so that they face outward, and then insert into the plug-in connector. At this time, pull lightly on the lead wire to confirm that it is securely inserted.
- Always connect the end terminal lead wires. (see Fig. 7).
- Be careful not to be caught or lose gaskets.
- Before supplying air to the manifold, always confirm that the bases are connected, and the end block fixing screws are tightened, etc. Supplying air when either of the end blocks are not securely fixed to the DIN rail could result in air leaks or in separated manifold bases.
- Be aware that the manifold is limited in the number of valve units that can be added, by the wiring specifications and wiring connection procedures, etc. For details, see the "Table for maximum number of valve units, by wiring specification," on p. 548.
- When there are large number of valves simultaneously supplying air to the secondary side, or when there is a large number of valve units, we recommend using two sources of air supply and exhaust (on each side).

  Note that adding units of the piping block assembly is performed in the same way as adding units of the valve base assembly. In addition, when the wiring block and piping block are side-by-side, always mount the wiring block at the outside of the piping block, for structural reasons.

Valve tightening torque N·cm {kgf·cm}

Series	Torque
F10	17.6 {1.8}
F15	49.0 {5.0}

Figure 6

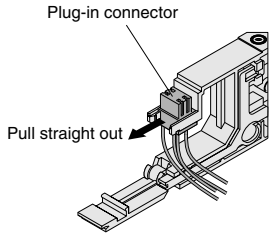
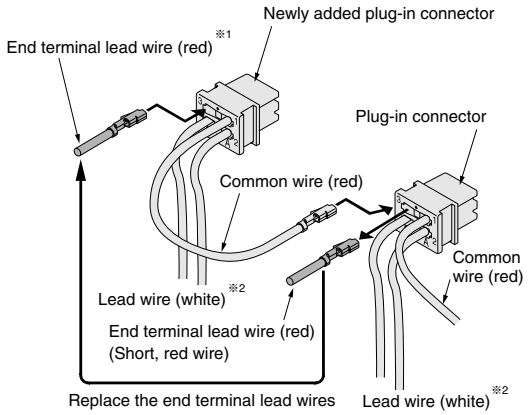
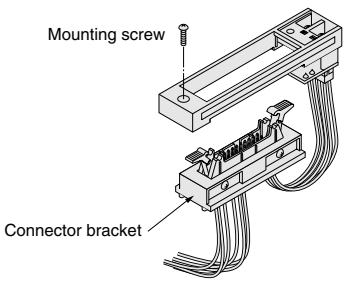


Figure 7


Newly added plug-in connector
End terminal lead wire (red) ※1
Plug-in connector
Common wire (red)
Common wire (red)
Lead wire (white) ※2
End terminal lead wire (red)
(Short, red wire)
Replace the end terminal lead wires
Lead wire (white) ※2

※1: Always insert end terminal lead wires.
※2: Shows when both A and B are used.

Figure 8

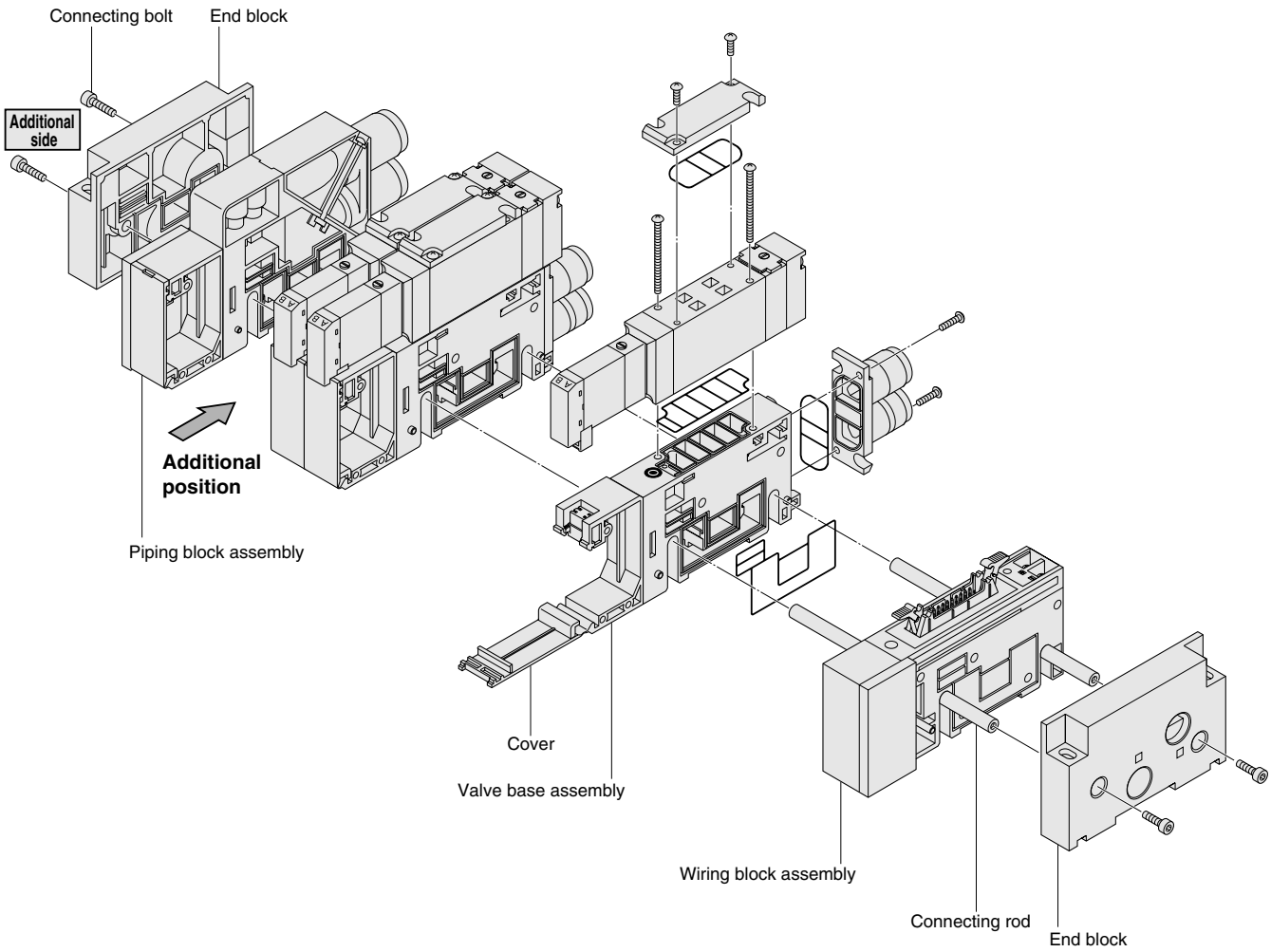


See "Detailed Diagram of Wiring Block Internal Connections" on p.524.

F18 Series Disassembly Diagram of Split Manifold Plug-in Type

Figure 1

Disassembly example: For mounted flat cable connector



Manifold Unit Adding Procedure (F18 Series Plug-in Type)

■ Adding valve base unit

Use the valve base assembly to add units.

① Remove the connecting bolts on the end block and separate the end block from the manifold (see Fig. 1).

② Install the connecting rods to be added, open up spaces where the units are being added, fit gaskets into the valve base assemblies being added, and place the units on top of the connecting rods. At this time, securely mount so that no clearance is left between the added valve base assemblies and the upper surface of the connecting rods.

③ Fit gaskets into the end blocks removed in Step ①, and retighten the connecting bolts. At this time, use a hexagonal bar wrench to hold the connecting bolts on the opposite side in place so as to prevent the bolts from slipping while tightening them into place. Tightening torque: 147N·cm {15kgf·cm}

■Wiring Procedure

① Use a minus screwdriver to open all of the covers (see Fig. 1). Loosen the mounting screws of the valves next to the valve bases to be added, remove the valves, and remove the plug-in connectors. (see Fig. 2).

② End terminal lead wire (short red wire) is inserted into pin insert section (No.3) of the removed plug-in connectors in step ①. (see Fig. 3)

(At time of delivery, end terminal lead wire is inserted into the plug-in connectors of the end unit valve.) Remove this end terminal lead wire, and insert it into the insert section (No.3) of the plug-in connector for the valve base assembly to be added. Next, insert the common wire (red) of this plug-in connector into the insert section (No.3) of the removed plug-in connector.

Note: When inserting the lead wire, confirm that the short bar of the plug-in connector's common wire insert section has been inserted.

③ Install each of the plug-in connectors wired in step ② to the valve base, and mount the valve.

④ Remove the wiring block mounting screws and place them in the position shown in Fig. 4, then connect the lead wire (white) of the added valve base after confirming the pin locations. (For details, see the detailed diagram of wiring block internal connections on p. 524)

⑤ Return the connector brackets to their original position, and fix the wiring block mounting screws in place, then close the cover while observing that the lead wires are not caught by the cover.

【Caution】

- Always cut off power and air supply before working. In addition, always confirm that air has been completely exhausted from the manifold.
- When removing lead wires from the plug-in connector, use an item with a fine tip (such as a small screwdriver) to press lightly on the contact hook from a window on the side of the plug-in connector, and pull out the lead wire. If re-inserting the lead wire to the connector, spread the contact hooks so that they face outward, and then insert into the plug-in connector. At this time, pull lightly on the lead wire to confirm that it is securely inserted.
- Always connect the end terminal lead wires. (see Fig. 3).
- Be careful not to be caught or lose gaskets.
- Before supplying air to the manifold, always confirm that the bases are connected, the end block connecting bolts on both sides are tightened, etc.

  Supplying air when either of the end blocks are not securely fixed in place could result in air leaks or in separated manifold bases.
- Be aware that the manifold is limited in the number of valve units that can be added, by the wiring specifications and wiring connection procedures, etc. For details, see the "Table for maximum number of valve units, by wiring specification," on p. 548.
- When there are large number of valves simultaneously supplying air to the secondary side, or when there is a large number of valve units, we recommend to use two sources of air supply and exhaust (on each side).

  Note that adding units of the piping block assembly is conducted in the same way as adding units of the valve base assembly. In addition, when the wiring block and piping block are side-by-side, always mount the wiring block at the outside of the piping block, for structural reasons.

Valve tightening torque N·cm {kgf·cm}

Series	torque
F18	49.0 {5.0}

Figure 2

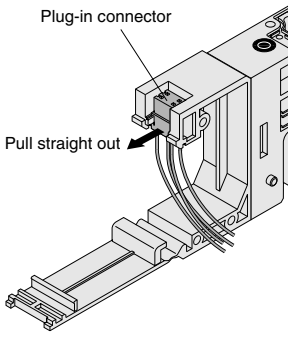
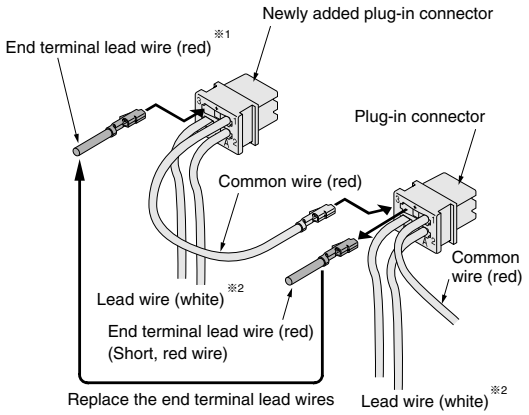
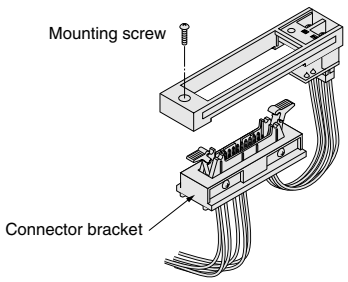


Figure 3


Newly added plug-in connector
End terminal lead wire (red) ※1
Plug-in connector
Common wire (red)
Common wire (red)
Lead wire (white) ※2
End terminal lead wire (red)
(Short, red wire)
Replace the end terminal lead wires
Lead wire (white) ※2

※1: Always insert end terminal lead wires.
※2: Shows when both A and B are used.

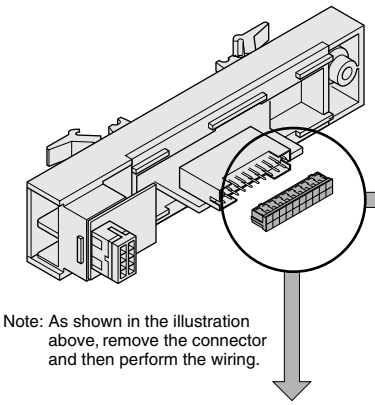
Figure 4



See "Detailed Diagram of Wiring Block Internal Connections" on p. 524.

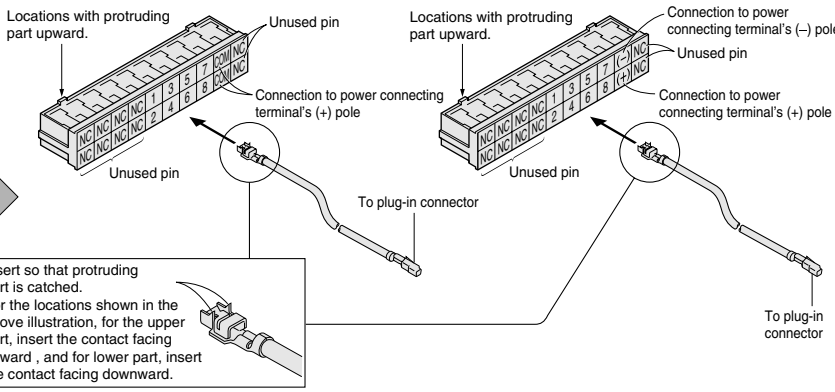
Detailed Diagram of Wiring Block Internal Connections

Flat cable connector 10, 20, 26 pins



Note: As shown in the illustration above, remove the connector and then perform the wiring.

●For -F100

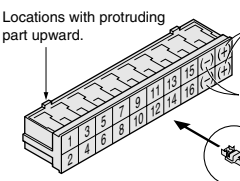


●For -F101

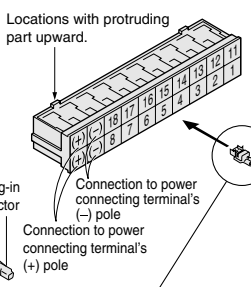
Locations with protruding part upward.
Connection to power connecting terminal's (–) pole
Unused pin
Connection to power connecting terminal's (+) pole
Unused pin

Insert so that protruding part is catched.
For the locations shown in the above illustration, for the upper part, insert the contact facing upward , and for lower part, insert the contact facing downward.

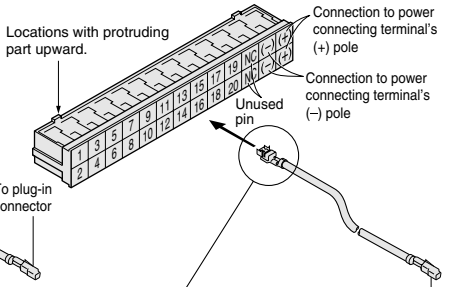
●For -F200


Locations with protruding part upward.
Connection to power connecting terminal's (+) pole
Connection to power connecting terminal's (–) pole

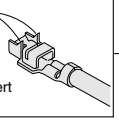
●For -F201


Locations with protruding part upward.
To plug-in connector
Connection to power connecting terminal's (–) pole
Connection to power connecting terminal's (+) pole

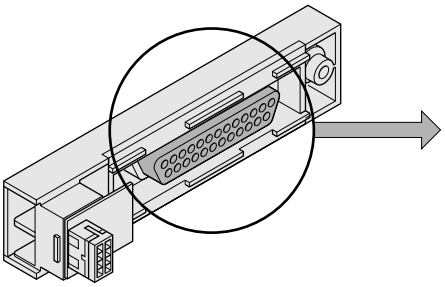
●For -F260


Locations with protruding part upward.
Connection to power connecting terminal's (+) pole
Connection to power connecting terminal's (–) pole
Unused pin
To plug-in connector
To plug-in connector

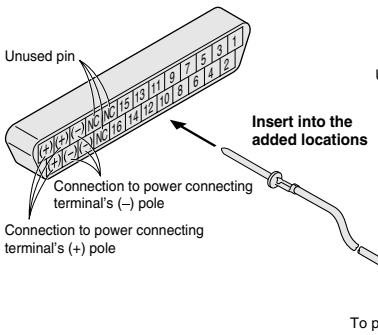
Insert so that protruding part is catched.
For the locations shown in the above illustration, for the upper part, insert the contact facing upward , and for lower part, insert the contact facing downward.



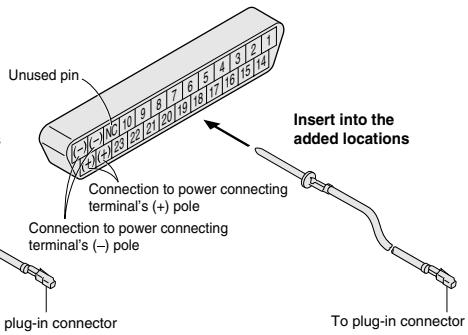
D sub connector



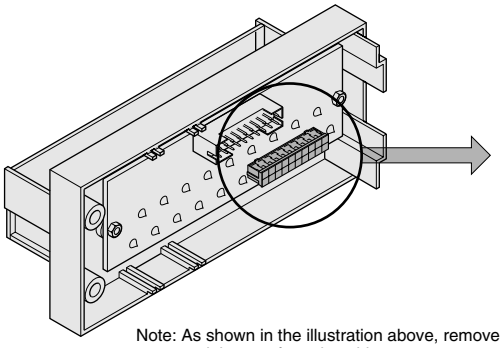
●For -D250


Unused pin
Insert into the added locations
Connection to power connecting terminal's (–) pole
Connection to power connecting terminal's (+) pole
To plug-in connector

●For -D251

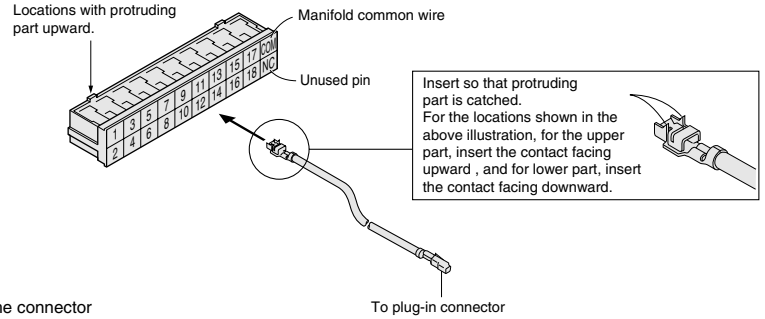

Unused pin
Insert into the added locations
Connection to power connecting terminal's (+) pole
Connection to power connecting terminal's (–) pole
To plug-in connector

Terminal block



Note: As shown in the illustration above, remove the connector and then perform the wiring.

●For -T200

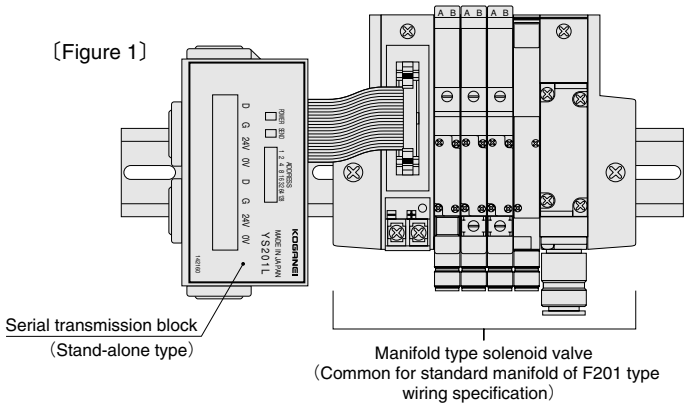

Locations with protruding part upward.
Manifold common wire
Unused pin
Insert so that protruding part is catched.
For the locations shown in the above illustration, for the upper part, insert the contact facing upward , and for lower part, insert the contact facing downward.
To plug-in connector

Product Configuration for the F Series Serial Transmission Compatible Manifold

In ordering the serial transmission compatible manifold, note that the product configurations vary between the F10 and F15 series, and the F18 series.

■For F10 and F15 series

〔Figure 1〕


Serial transmission block
(Stand-alone type)
Manifold type solenoid valve
(Common for standard manifold of F201 type wiring specification)

●The manifold body and serial transmission block are connected by a flat cable, and mounted on one DIN rail at time of delivery.

Serial Transmission Block, Single Unit

YS2□L (For stand-alone, left-side mounting)※
YS2□R (For stand-alone, right-side mounting)※
YS391 (For Omron CompoBus/D)Note

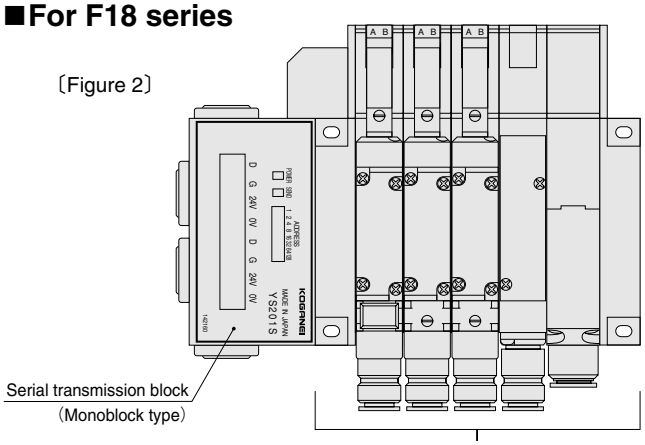
※: About 100mm of a flat cable with connector is provided with the serial transmission block.

Note: The transmission block uses Omron's remote I/O adapter-type DRT1-OD16X, and therefore differs in shape from other transmission blocks.

Illustration shows the F10 series.

■For F18 series

〔Figure 2〕



●The serial transmission block is fixed to the manifold at time of delivery.

Serial Transmission Block, Single Unit

YS2□S (For monoblock, left-side mounting)※
YS2□T (For monoblock, right-side mounting)※
YS391 (For Omron CompoBus/D)Note

※: Cables, etc., not provided with serial transmission block.

Note: The transmission block uses Omron's remote I/O adapter-type DRT1-OD16X, and therefore differs in shape from other transmission blocks.

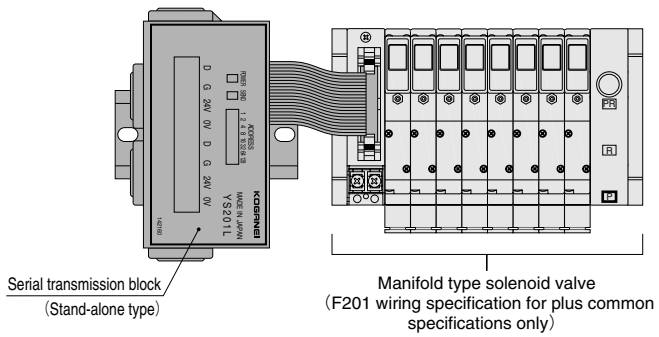
■Application Examples for Serial Transmission Block, Single Products (for reference)

If manifolds with flat cable connectors sold in the past have F201 wiring specifications (with plus common specifications only), the serial transmission blocks (stand-alone type) **YS2□L, YS391** or **YS2□R** in Figure 1 can be connected to the manifold to convert it into a serial transmission-compatible manifold.

●Connectable Manifolds

- FM-SOLID MANIFOLD X80M and X88M Series
- Solenoid valves F series (F10 and F15 series are the same, with the exception of the above-described manifold and DIN rail.)

●Connection example between serial transmission block (stand-alone type) and earlier type of manifold


Serial transmission block
(Stand-alone type)
Manifold type solenoid valve
(F201 wiring specification for plus common specifications only)

Serial Transmission Block, Single Unit

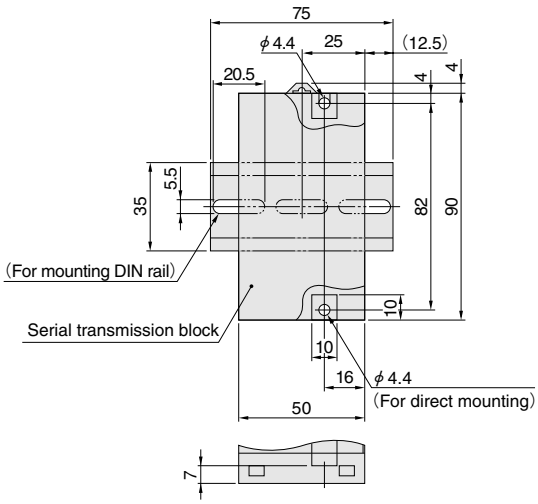
YS2□L (For stand-alone, left-side mounting)※
YS2□R (For stand-alone, right-side mounting)※
YS391 (For Omron CompoBus/D)Note

※: Flat cable with connector provided with serial transmission block.

Note: The transmission block uses Omron's remote I/O adapter-type DRT1-OD16X, and therefore differs in shape from other transmission blocks.

Mounting dimensions for serial transmission block, single product (Scale 1/3, Unit mm)

When ordering **YS2□L** or **YS2□R** as single unit, a DIN rail is included.



Specifications of Serial Transmission Compatible Manifold

General Specifications

Voltage	DC24V ±10%
Operating temperature range	5～50˚C
Vibration resistance	49.0m/s² {5.0G} (Conforms to JIS C 0911)
Shock resistance	98.1m/s² {10.0G} (Conforms to JIS C0912)

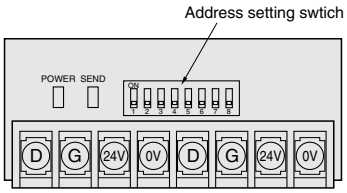
●For details about specifications, see the user's manual. (See below)

Note: Internal wiring for the F10 and F15 series on the manifold side is the same as the wiring specification **-F201** of the split-type manifold plug-in type. (flat cable connector type)

Serial Transmission Block, Terminal Block (LED) Names

●For UNI-WIRE® System

Transmission block specification: **-01** (16-point output), **-02** (8-point output)



LED names

Display	Description
POWER	•Lights up when power is turned on. •Flashes during voltage drops or over current (a short circuit).
SEND	•Flashes during normal transmission. •Lights up or shut off during faulty transmission.

Remark

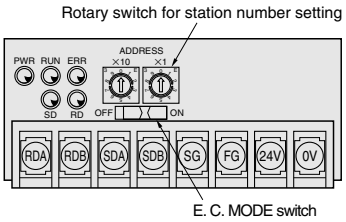
※UNI-WIRE® System is a serial parallel transmission system developed jointly by NKE and Kuroda Precision Industries. For details about UNI-WIRE System, see the NKE or Kuroda Precision Industries catalog, user's manual, etc.

●Number of output points per block
16 solenoids (transmission block specification: **-01**)
8 solenoids (transmission block specification: **-02**)

●Related materials: User's manual, document No.**HV005**

●For Mitsubishi Electric MELSECNET/MINI-S3

Transmission block specification: **-11**



LED names

Display	Description
PWR	•Lights up when power is turned on.
RUN	•Lights up for normal data communication with master station.
SD	•Flashes during sending data.
RD	•Flashes during receiving data.
ERR	•Lights up when data receiving error occurs. Shut off for normal communication.

Remark

●Master station: MELSEC-A series
AJ71PT32-S3, AJ71T32-S3, A2CCPU/A2CJCPU, A1SJ71PT32-S3, link sub-stations up to a maximum of 64 stations, and link I/O points up to a maximum of 512 points.

※For details, see Mitsubishi Electric's sequencer MELSEC-A series catalog, user's manual, etc.

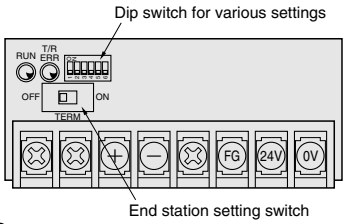
●Number of output points per block
Maximum of 16 solenoids

※Since the block is equivalent to two stations, if the block is entirely composed of sub-stations, the maximum becomes 32 units.

●Related materials: User's manual, document No.**HV006**

●For Omron SYSBUS Wire System

Transmission block specification: **-21**



LED names

Display	Description
RUN	•Lights up when transmission is normal, and the PC is in operations mode or monitor mode.
T/R ERR	•Flashes during normal transmission. •Lights up during standby or faulty transmission. •Shut off during faults (during watchdog timer fault).

Remark

●Parent station unit: SYSMAC-C (CV) series
C200H-RM201, C500-RM201

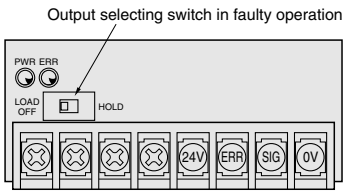
※For details, see Omron's programmable controller SYSMAC C(CV) series catalog, user's manual, etc.

●Number of output points per block
Maximum of 16 solenoids

●Related materials: User's manual, document No.**HV007**

●For Omron B7A Link Terminal

Transmission block specification: **-31** (standard type), **-32** (high-speed type)



LED names

Display	Description
PWR	•Lights up when power is turned on.
ERR	•Lights up during faulty transmission.

Remark

●Connection method: 1 to 1

(Transmission block specification)	Standard type (-31)	High speed type (-32)
Transmission delay time	Max.31ms	Max.5ms
Transmission distance	Max.500m	Max.100m

※For details about the B7A Link Terminal, see the Omron catalog, user's manual, etc.

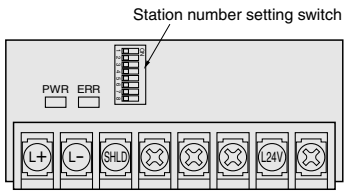
●Number of output points per block
Maximum of 16 solenoids

●Error output specifications
Output mode: NPN open collector
Rated load voltage: DC24V
Output current: Sink current MAX. 40mA

●Related materials: User's manual, document No.**HV008**

●For Koyo Electronics Industries SA Bus

Transmission block specification: **-41** (16-point output), **-42** (8-point output)



LED names

Display	Description
PWR	•Lights up when power is turned on.
ERR	•Lights up during faulty transmission or other faults.

Remark

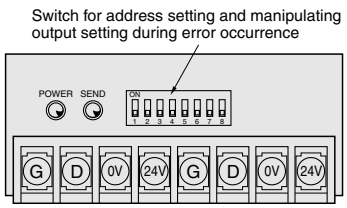
※ For details about the SA Bus system, see the Koyo Electronics Industries catalog, user's manual, etc.

●Number of output points per block
16 solenoids (transmission block specification: **-41**)
8 solenoids (transmission block specification: **-42**)

●Related materials: User's manual, document No.**HV009**

●For Sunx S-LINK

Transmission block specification: **-51** (16-point output), **-52** (8-point output)



LED names

Display	Description
POWER	•Lights up when power is turned on.
SEND	•Flashes during normal transmission. •Lights up or shut off during faulty transmission.

Remark

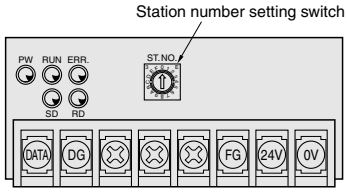
※For details about the S-LINK System, see the Sunx catalog, user's manual, etc.

●Number of output points per block
16 solenoids (transmission block specification: **-51**)
8 solenoids (transmission block specification: **-52**)

●Related materials: User's manual, document No.**HV010**

●For Mitsubishi Electric MELSEC I/O LINK

Transmission block specification: **-61**



LED names

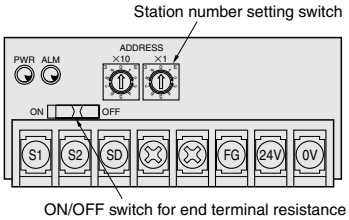
Display	Description
PW	•Lights up when power is turned on.
RUN	•Lights up when data transmitted from master unit is normal.
SD	•Lights up during sending data to master unit.
RD	•Lights up during receiving data from master unit.
ERR.	•Lights up when faulty data transmitted from master unit.

Remark

- ●16 remote I/O unit connection stations, for a maximum of 128 control input/output points
- ※For details, see Mitsubishi Electric's sequencer catalog, user's manual, etc.
- ●Number of output points per block
  Maximum of 16 solenoids
- ※Since the block is equivalent to four stations, if the block is entirely composed of sub-stations, a maximum of four units can connect to one master unit.
- ●Related materials: User's manual, document No.**HV011**

●For Fuji Electric T Link Mini

Transmission block specification: **-71**



LED names

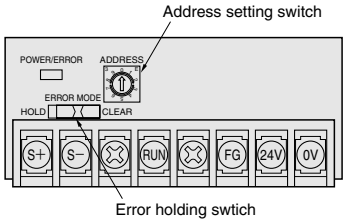
Display	Description
PWR	•Lights up when power is turned on.
ALM	•Lights up during faulty transmission.

Remark

- ※For details about the T Link Mini, see the Fuji Electric catalog, user's manual, etc.
- ●Number of output points per block
  Maximum of 16 solenoids
- ●Related materials: User's manual, document No.**HV012**

●For Keyence KZ-R

Transmission block specification: **-81**



LED names

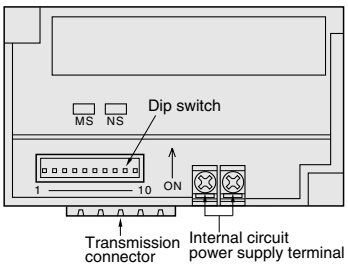
Display	Description
POWER/ ERROR	•Green : Lights up for normal communications status. •Orange : Lights up when communications status is poor. (Can also light up when address settings are different) •Red : Lights up during faulty operation, or when transmission is cut off.

Remark

- ※For details about KZ-R, see the Keyence catalog, user's manual, etc.
- ●Number of output points per block
  Maximum of 16 solenoids
- ●Related materials: User's manual, document No.**HV013**

●For Omron CompoBus /D

Transmission block specification: **-91**



LED names

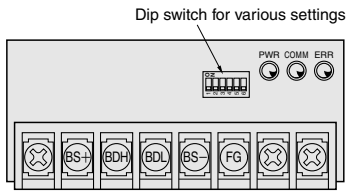
Display	State	Display color	Description
MS	Lights up	Green	•Normal status
	Flashing		•No setting status
	Lights up	Red	•Serious breakdown
	Flashing		•Minor breakdown
	Shut off	—	•No power supply
NS	Lights up	Green	•Communication connection achieved.
	Flashing		•No communication connection.
	Lights up	Red	•Serious communication fault.
	Flashing		•Minor communication fault.
	Shut off	—	•No power supply.

Remark

- ※ For details about CompoBus/D, see the Omron catalog, user's manual, etc.
  The transmission block is Omron's remote adaptor-type **DRT1-OD16X**. For details about handling, see Omron's user's manual.
- ● Number of output points per block
  Maximum of 16 solenoids
- ● Related materials: User's manual, document No.**HV014**

●For Omron CompoBus/S

Transmission block specification: **-A1** (16-point output), **-A2** (8-point output)



LED names

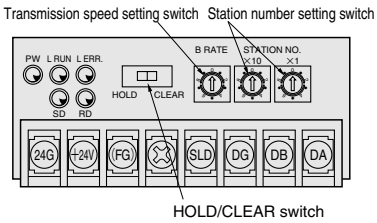
Display	State	Display color	Description
PWR	Lights up	Green	•During power supply.
	Shut off		•When power is not supplied.
COMM	Lights up	Yellow	•During normal communication.
	Shut off		•Communication fault, or standby.
ERR	Lights up	Red	•Communication fault occurred.
	Shut off		•During normal communication, or standby.

Remark

- ※ For details about CompoBus/S, see the Omron catalog, user's manual, etc.
- ● Number of output points per block
  16 solenoids (transmission block specification: **-A1**)
  8 solenoids (transmission block specification: **-A2**)
- ● Related materials: User's manual, document No.**HV015**

●For Mitsubishi Electric CC-Link

Transmission block specification: **-B1**



LED names

Display	Description
PW	•Lights up when power is turned on.
L RUN	•Lights up when normal data is received from master station.
SD	•Lights up for data sending.
RD	•Lights up for data receiving.
L ERR.	•Lights up for transmission error, and shut off for time over. Lights up for station number setting error or transmission speed setting error.

Remark

- ※For details about CC-Link, see the Mitsubishi Electric catalog, user's manual, etc.
- ●Number of output points per block
  16 solenoids
- ※Since the block occupies one station, if the block is entirely composed of remote I/O stations, a maximum of 64 units can connect to one master station.
- ●Related materials: User's manual, document No.**HV016**

■ For details about specifications and handling, see the above-listed user's manuals (document No. **HV005**～**HV016**).

■Description of Changes

Offering more durability and improved reliability, the coil dimensions have been changed. Therefore, to identify between the earlier and new types due to a partial change in manifold dimensions, parts of the outward color have been changed.

1.Changes in Single Valve Unit (Common to F10, F15, and F18 Series)

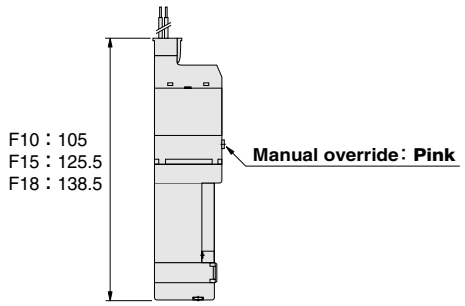
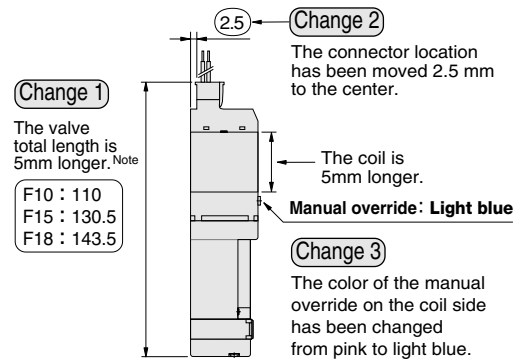
① S Type Plug Connector

Change 1 The coil is 5mm longer, and the valve total length becomes also 5mm longer.

Change 2 The connector location has been moved 2.5mm to the center.

Change 3 To identify between new and earlier types, the color of the manual override on the coil side has been changed from pink to light blue.

Unit mm

Earlier	New
※Illustration shows the F10 series.  	 Note: The valve length is longer toward the coil side when mounting on the manifold.

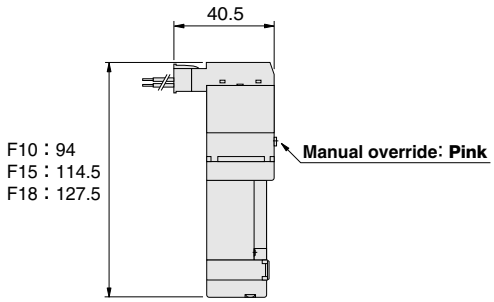
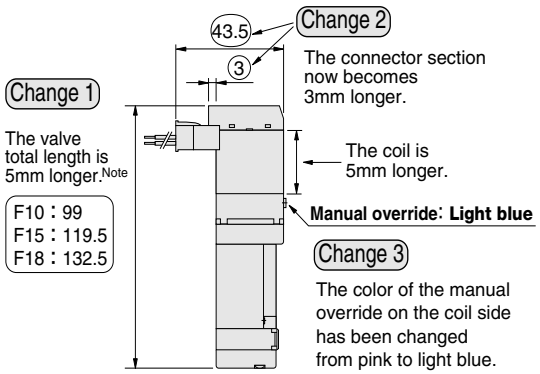
② L Type Plug Connector

Change 1 The coil is 5mm longer, the valve total length becomes also 5mm longer.

Change 2 The connector section now becomes 3mm longer.

Change 3 To identify between new and earlier types, the color of the manual override on the coil side has been changed from pink to light blue.

Unit mm

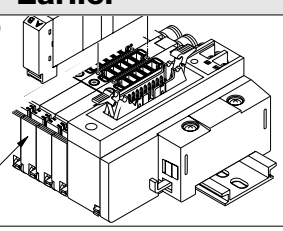
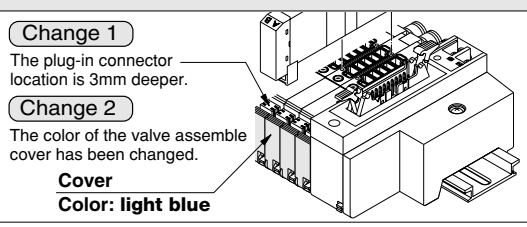
Earlier	New
※Illustration shows the F10 series.  	 Note: The valve length is longer toward the coil side when mounting on the manifold.

2.Change in Connector Receptacle Shape of Plug-in Type Manifold (Common to F10, F15, and F18 Series)

■Target Products: Split Manifold Plug-in Type, and Serial Transmission Compatible Manifold

Change 1 Connector receptacle position for valve assembly became 3mm deeper due to the change in the valve's L type plug connector.

Change 2 To identify between new and earlier types, the color of the valve assembly cover has been changed from ivory to light blue.

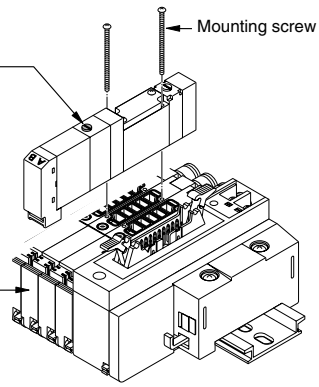
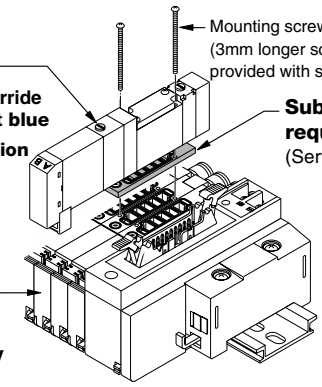
Earlier	New
※Illustration shows the F10 series.  	

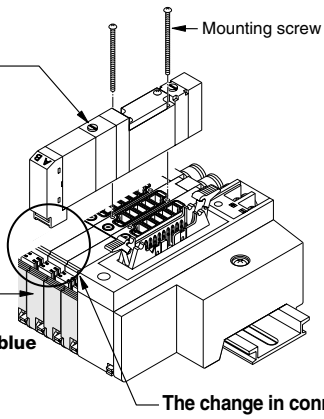
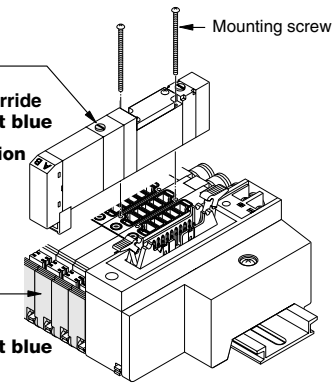
■Precautions for Valve Replacement

1.About Combined Mountings of New and Earlier Types of Valves, and Manifolds

- For split-type manifolds plug-in type, and the serial transmission compatible manifolds, a change in the connector receptacle brings up some issues when combining earlier and new types of mounting valves and combination of the valves and manifolds on replacing the valves. For details about earlier and new combinations, see the table below.
- Since split manifolds non-plug-in type, and monoblock manifolds and PC board manifolds, do not have plug-in construction, consequently all combinations of earlier and new types are acceptable.

※Illustration shows the F10 series.

<table>
<tr><th colspan="2">Manifold \ Valve</th><th>Earlier
Color of manual override on coil side: Pink</th><th>New
Color of manual override on coil side: Light blue</th></tr>
<tr><td rowspan="2">Targeted products
● Serial transmission compatible manifold
● Split manifold plug-in type</td><td>Earlier
Color of cover on the valve base assembly: Ivory</td><td>Earlier type
Manual override Color: Pink
○
Earlier type
Cover Color: Ivory
 
</td><td>New type
Manual override color: Light blue
Caution
○
Earlier type
Cover Color: Ivory
 

Caution: The sub-plate shown in the illustration above is required to align the heights in the connector section. Always attach a sub-plate to mount the valve. Note that the valve height is 3mm higher than the earlier type, and that the valve length on the coil side is 5mm longer.</td></tr>
<tr><td>New
Color of cover on the valve base assembly: light blue</td><td>Earlier type
Manual override Color: Pink
×
New type
Cover Color: Light blue
 
</td><td>New type
Manual override Color: Light blue
Caution
○
New type
Cover Color: Light blue
 

Caution: Sub-plate not required.
Use of a sub-plate prevents the connector section from connecting firmly, resulting in poor contact.</td></tr>
</table>

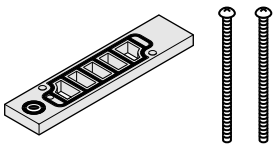
2.Sub-plate (Service Parts)

The sub-plate is provided as a service part, necessary to mount the new type valves on the earlier type split manifold plug-in type and on the earlier type serial transmission compatible manifold.

Sub-plate (Sub-plate, gasket, O ring, 2 mounting screws)

F □ Z - S

Valve size
10 : 10mm width
15 : 15mm width
18 : 18mm width



F Series Order Code

The solenoid valves F series order codes are classified into the following 8 categories. For details on order codes, see the designated pages.

F □ □

Koganei solenoid valves **F** series

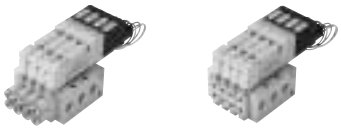
Valve size

- ●**10** : 10mm width (Effective area 5mm²)
- ●**15** : 15mm width (Effective area10mm²)
- ●**18** : 18mm width (Effective area18mm²)

T : Single valve unit

p. 532

M□**A** : Monoblock manifold **A** type (base piping type)



p. 534

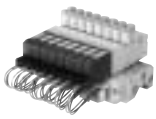
M□**F** : Monoblock manifold **F** type (direct piping type)

p. 536

M□**AP** : PC board manifold **A** type (base piping type)

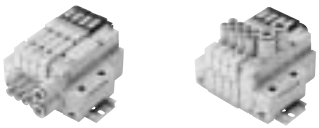
p. 538

M□**FP** : PC board manifold **F** type (direct piping type)



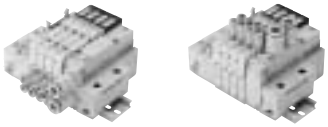
p. 540

M□**N** : Split manifold non-plug-in type



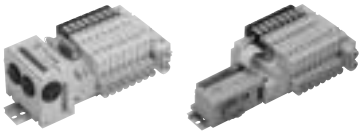
p. 542

M□**P** : Split manifold plug-in type



p. 546

M□**S** : Serial transmission compatible manifold



p. 550

Single Valve Unit Order Code

■ Valve size

10mm width

Effective area 5mm²

15mm width

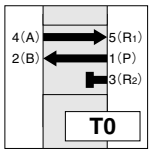
Effective area 10mm²

18mm width

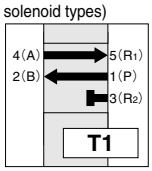
Effective area 18mm²

■ Valve specification

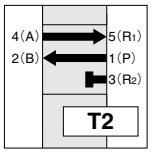
2-position
single solenoid
specification
(for single solenoid only)



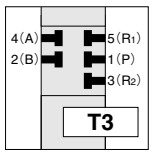
2-position
single solenoid specification
(for both single and double solenoid types)



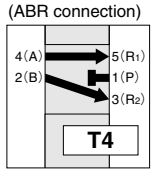
2-position
double solenoid specification
(for both single and double solenoid types)



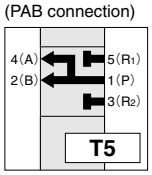
3-position
(all port block)



3-position
(ABR connection)



3-position
(PAB connection)



■ Operation method

Blank

Internal pilot type

G

External pilot type[Note]
(for positive pressure)

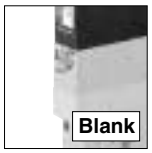
V

External pilot type[Note]
(for vacuum)※
※: This is a vacuum valve.

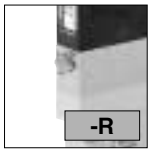
Note: When using as a single unit, select **-A2** (A type with sub-base) for the valve output type. Without a sub-base, piping for the external pilot cannot be available.

■ Manual override

Manual override



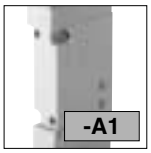
Manual lever override
(made to order) [Note1]



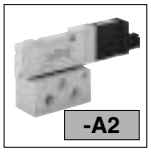
■ Valve output type

Without input/
output block

A type with plate

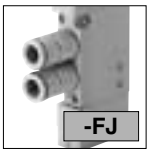


A type with sub-
base



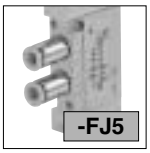
Output port
F10：Rc1/8
F15：Rc1/8
F18：Rc1/4

With output port
different size fitting
block



Output port fitting
F10：ϕ4, ϕ6
F15：ϕ6, ϕ8
F18：ϕ8, ϕ10

With output port
single size fitting
block



Output port fitting
F10：ϕ4
F15：ϕ6
F18：ϕ8

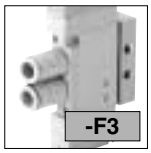
With output port
single size fitting
block

Output port fitting
F10：ϕ6
F15：ϕ8
F18：ϕ10

With output port
female thread block

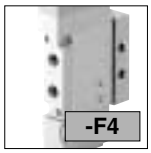
F10：M5×0.8
F15：Rc1/8
F18：Rc1/4

With output port different
size fitting block
With input port
female thread block



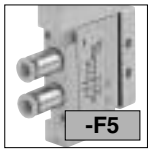
Output port fitting
F10：ϕ4, ϕ6
F15：ϕ6, ϕ8
F18：ϕ8, ϕ10

With output port
female thread block
With input port
female thread block



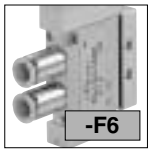
Output port
F10：M5×0.8
F15：Rc1/8
F18：Rc1/4

With output port
single size fitting block
With input port
female thread block



Output port fitting
F10：ϕ4
F15：ϕ6
F18：ϕ8

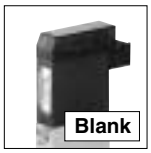
With output port
single size fitting block
With input port
female thread block



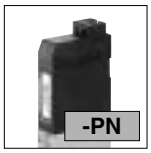
Output port fitting
F10：ϕ6
F15：ϕ8
F18：ϕ10

■ Wiring specification

L type plug connector
Without connector



S type plug connector
Without connector



S type plug connector
Lead wire 300mm

L type plug connector
Lead wire 300mm

S type plug connector
Lead wire 3000mm

L type plug connector
Lead wire 3000mm

Valve size	Valve specification	Operation method	Manual override	Valve output type	Wiring specification	Voltage
F10 F15 F18	T0 T1 T2 T3 T4 Note4 T5 Note4	Blank G V	Blank -R Note1	Blank Note2 -A1 Note2 -A2 -FJ Note2 -FJ5 Note2 -FJ6 Note2 -FM Note2 -F3 Note3 -F4 Note3 -F5 Note3 -F6 Note3	Blank -PN -PS -PL -PS3 -PL3	DC24V DC12V AC100V

Notes: 1. The manual lever override is made to order. Contact us for the delivery. When the valve specifications are **T1** or **T2**, the manual lever override is available for the A side only.
2. Two manifold mounting screws are included.
3. The units with input port female thread block can be used only when the operation method is the internal pilot type valve.
4. Not available for the vacuum valve.

Additional Parts Order Code for Single Valve Unit

● For internal pilot

F□Z - □

Valve size
10：10mm width
15：15mm width
18：18mm width

Parts content
21 : Mounting bracket (mounting bracket, 2 mounting screws)
25 : Sub-base (sub-base body, gasket, exhaust valve) Note 1
P : Plate (plate, gasket, 2 mounting screws)
J : Different size fitting block (fitting block, gasket, 2 mounting screws)
J5 : Single size fitting block **F10**: ϕ 4, **F15**: ϕ 6, **F18**: ϕ 8 (fitting block, gasket, 2 mounting screws)
J6 : Single size fitting block **F10**: ϕ 6, **F15**: ϕ 8, **F18**: ϕ 10 (fitting block, gasket, 2 mounting screws)
M : Female thread block (female thread block, gasket, 2 mounting screws)
MP : P port female thread block (P port female thread block, gasket) Note 1
GS1 : Gasket (gasket, exhaust valve) Note 2

Notes: 1. Valve mounting screws are not included.
2. Be aware that this gasket is different from the **GS2** gasket for the split-type manifolds.

● For external pilot

F□Z - □

Valve size
10：10mm width
15：15mm width
18：18mm width

Parts content
P : Plate (plate, gasket, 2 mounting screws)
J : Different size fitting block (fitting block, gasket, 2 mounting screws)
J5 : Single size fitting block **F10**: ϕ 4, **F15**: ϕ 6, **F18**: ϕ 8 (fitting block, gasket, 2 mounting screws)
J6 : Single size fitting block **F10**: ϕ 6, **F15**: ϕ 8, **F18**: ϕ 10 (fitting block, gasket, 2 mounting screws)
M : Female thread block (female thread block, gasket, 2 mounting screws)
GS1 : Gasket (gasket, exhaust valve) Note 2

Notes: Be aware that this gasket is different from the **GS2** gasket for the split type manifolds.

Sub-base for external pilot

F□ZG - 25

Valve size
10：10mm width
15：15mm width
18：18mm width

Connector-related order code

FZ - □

Valve specification
For **T1, T2, T3, T4, T5**

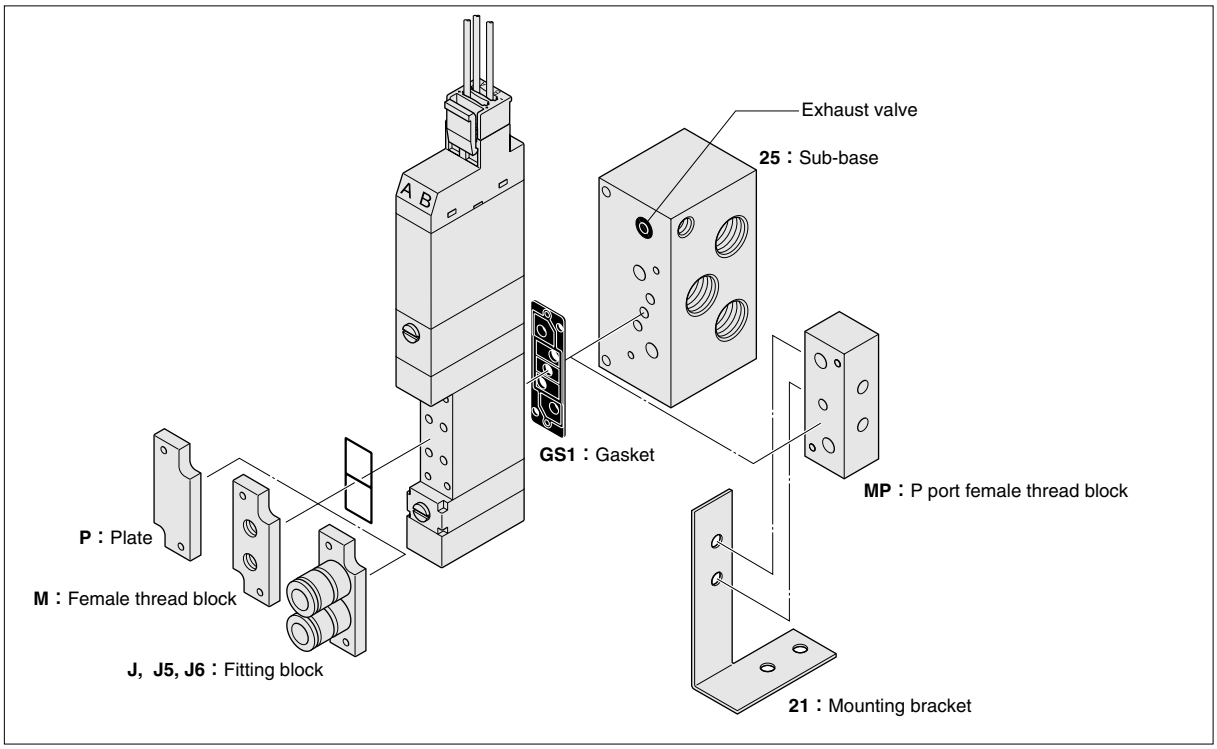
Connector specification
CP : Connector, lead wire length 300mm (black, red, white, for total of 3 lead wires)
CP3 : Connector, lead wire length 3000mm (black, red, white, for total of 3 lead wires)
CLN : Connector without lead wire (1 short bar and 3 contacts included)
CC1.5 : Cabtire cable, length 1500mm※
CC3 : Cabtire cable, length 3000mm※

※For details, see p. 513.

FZ0 - □

Valve specification
For **T0**

Connector specification
CP : Connector, lead wire length 300mm (black, red, for total of 2 lead wires)
CP3 : Connector, lead wire length 3000mm (black, red, for total of 2 lead wires)
CLN : Connector without lead wire (1 short bar, 2 contacts included)



Monoblock Manifold A Type (Base Piping) Order Code

■Valve size

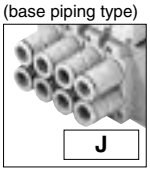
F10M
10mm width Effective area 5mm²

F15M
15mm width Effective area 10mm²

F18M
18mm width Effective area 18mm²

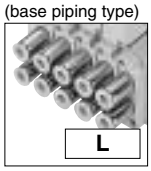
■Manifold output specification

With different size fitting block (base piping type)



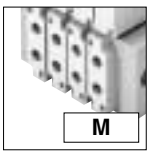
Output port fitting
F10 : φ4, φ6
F15 : φ6, φ8
F18 : φ8, φ10

With single size fitting block (base piping type)



Output port fitting
F10 : φ4 or φ6
F15 : φ6 or φ8
F18 : φ8 or φ10

With female thread block (base piping type)



Output port female thread
F10 : M5×0.8
F15 : Rc1/8
F18 : Rc1/4

■Valve specification

T0 : 2-position, for single solenoid only
T1 : 2-position, single solenoid specification
T2 : 2-position, double solenoid specification
T3 : 3-position, all port block
T4 : 3-position, ABR connection
T5 : 3-position, PAB connection

■Pilot specification

Blank
Internal pilot manifold

G
External pilot manifold

■Operation method

Blank
Internal pilot type[Note4]

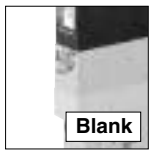
G
External pilot type[Note5] (for positive pressure)

V
External pilot type[Note5] (for vacuum)※
※: This is a vacuum valve.

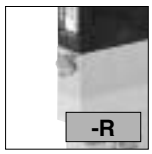
Note: Cannot be combined with a positive pressure valve.

■Manual override

Manual override

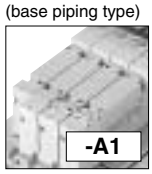


Manual lever override (made to order) [Note2]



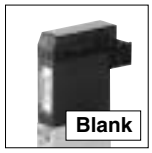
■Valve output type

With plate [Note 3] (base piping type)



■Wiring specification

L type plug connector Without connector



S type plug connector Without connector

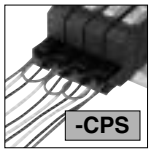
S type plug connector Lead wire 300mm

L type plug connector Lead wire 300mm

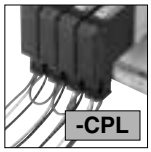
S type plug connector Lead wire 3000mm

L type plug connector Lead wire 3000mm

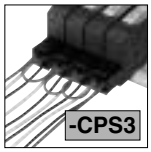
Plus common pre-wiring connection S type plug connector Lead wire 300mm



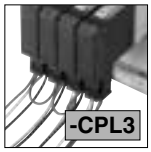
Plus common pre-wiring connection L type plug connector Lead wire 300mm



Plus common pre-wiring connection S type plug connector Lead wire 3000mm



Plus common pre-wiring connection L type plug connector Lead wire 3000mm

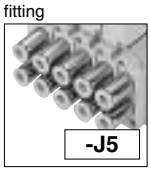


■Individual air supply and exhaust spacer

Blank : Without spacer
-NPM : Individual air supply spacer (with M5 female thread for F10)
-NP6 : Individual air supply spacer (with φ6 fitting for F15)
-NP8 : Individual air supply spacer (with φ8 fitting for F15 and F18)
-NP0 : Individual air supply spacer (with φ10 fitting for F18)
-NRM : Individual exhaust spacer (with M5 female thread for F10)
-NR6 : Individual exhaust spacer (with φ6 fitting for F15)
-NR8 : Individual exhaust spacer (with φ8 fitting for F15 and F18)
-NR0 : Individual exhaust spacer (with φ10 fitting for F18)
For details, see p.516.

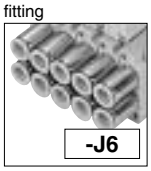
■Manifold fitting specification

Manifold side output port single fitting



Output port fitting
F10 : φ4
F15 : φ6
F18 : φ8

Manifold side output port single fitting



Output port fitting
F10 : φ6
F15 : φ8
F18 : φ10

Note: Valves of different sizes can not be combined together for mounting.

Valve size	Valve units	Manifold output specification	Pilot specification	Station	Valve size	Valve specification	Operation method	Manual override	Valve output type	Wiring specification	Manifold fitting specification	Individual air supply and exhaust spacer	Voltage
Manifold model				Mounting valve models									
F10M F15M F18M	2 ⋮ 20	A	J M	Blank G	stn. 1 ⋮ stn.□ Note1	F10 F15 F18	T0 T3 T1 T4[Note6] T2 T5[Note6]	Blank[Note4] G[Note5] V[Note5]	Blank -R[Note2]	-A1 Note3	Blank -PN -CPS -PS -CPL -PL -CPS3 -PS3 -CPL3 -PL3		Blank -NPM -NRM -NP6 -NR6 -NP8 -NR8 -NP0 -NR0	DC24V DC12V AC100V
						BP (for block-off plate)							
F10M F15M F18M	2 ⋮ 20	A	L	Blank G	stn. 1 ⋮ stn.□ Note1	F10 F15 F18	T0 T3 T1 T4[Note6] T2 T5[Note6]	Blank[Note4] G[Note5] V[Note5]	Blank -R[Note2]	-A1 Note3	Blank -PN -CPS -PS -CPL -PL -CPS3 -PS3 -CPL3 -PL3	-J5 -J6	Blank -NPM -NRM -NP6 -NR6 -NP8 -NR8 -NP0 -NR0	DC24V DC12V AC100V
						BP (for block-off plate)							

Notes: 1. Valve mounting location from the left, with the solenoid on top, and A and B ports front.
2. The manual lever override is made to order. Contact us for the delivery. When the valve specifications are **T1** or **T2**, the manual lever override is placed on the A side only.
3. Always enter **-A1**.
4. Cannot be mounted on the external pilot manifold.
5. Cannot be mounted on the internal pilot manifold.
6. Not available for the vacuum valve.

Additional Parts Order Code for Monoblock Manifold A Type

Gasket (gasket and exhaust valve)

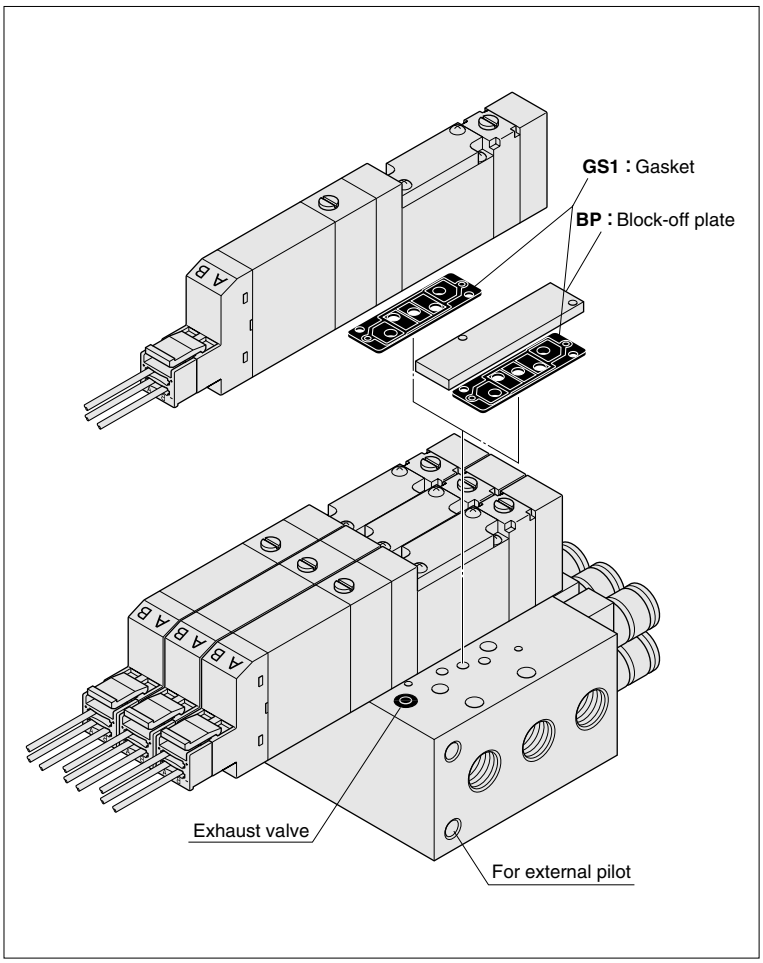
F□Z - GS1

Valve size
10：10mm width
15：15mm width
18：18mm width

Block-off plate (block-off plate and 2 mounting screws)

F□BP

Valve size
10：10mm width
15：15mm width
18：18mm width



Connector-related order code

FZ□ - □

Valve specification
Blank : For **T1, T2, T3, T4, T5**
0 : For **T0**

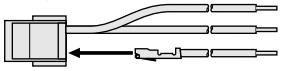
※For details, see p.513.

Connector specification
CP : Connector, lead wire length 300mm
CP3 : Connector, lead wire length 3000mm
CLN : Connector without lead wire (short bar and contacts included)
PA : Plus common A type, lead wire length 300mm※
PA3 : Plus common A type, lead wire length 3000mm※
PB : Plus common B type, lead wire length 300mm※
PB3 : Plus common B type, lead wire length 3000mm※
PC : Plus common C type, lead wire length 300mm※
PC3 : Plus common C type, lead wire length 3000mm※
CC1.5 : Cabtire cable, length 1500mm Note※
CC3 : Cabtire cable, length 3000mm Note※

Note: Not available for **T0**.

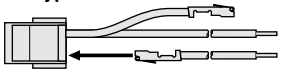
●Common connector assembly

A type：FZ-PA□※



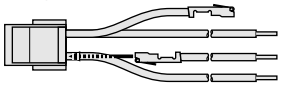
Red Common wire (+)
Black A side (–)
White B side (–) (Insert when using as double solenoid) Note

B type：FZ-PB□※



Red Common wire (+)
Black A side (–)
White B side (–) (Insert when using as double solenoid) Note

C type：FZ-PC□※



Red Common wire (+)
Black A side (–)
White B side (–) (Insert when using as double solenoid) Note
Red Common wire (+)

※: Lead wire length **Blank:** 300mm **3:** 3000mm

Note: White lead wire is not available for **FZ0-P□□**.

Individual air supply and exhaust spacer (Spacer for non-plug-in type, gasket, exhaust valve and 2 mounting screws)

F□Z - □

Valve size
10：10mm width
15：15mm width
18：18mm width

Specification
NPM : Individual air supply spacer (with M5 female thread for F10)
NP6 : Individual air supply spacer (with φ6 fitting for F15)
NP8 : Individual air supply spacer (with φ8 fitting for F15 and F18)
NP0 : Individual air supply spacer (with φ10 fitting for F18)
NRM : Individual exhaust spacer (with M5 female thread for F10)
NR6 : Individual exhaust spacer (with φ6 fitting for F15)
NR8 : Individual exhaust spacer (with φ8 fitting for F15 and F18)
NR0 : Individual exhaust spacer (with φ10 fitting for F18)

※For details, see p.516.

Muffler

KM - J□

Fitting size
6 : Outer diameter φ6 (for individual exhaust spacer)
8 : Outer diameter φ8 (for individual exhaust spacer)
10 : Outer diameter φ10 (for individual exhaust spacer)
(Sales unit: Set of 10 mufflers)

Manifold Order Code Example
(6 units of F10 Series)

F10M6AL

stn.1～2 F10T0-A1-PS-J5 DC24V
stn.3～5 F10T2-A1-PS-J6 DC24V
stn.6 F10BP-J6

Note: This order code example has no relation to the illustration at upper right.

Precautions for Order Code

●Manifold output specification
Select either "with fitting block" or "with female thread block." For repair or replacement, purchase the single valve unit additional parts, **F□Z-J** (different size fitting block), **F□Z-J□** (single size fitting block), or **F□Z-M** (female thread block), on p. 533.

●Orders for valves only
Place orders from "Single Valve Unit Order Code" on p. 532. Note, however, that the only compatible valve type is **A1.** In addition, for common terminal wiring connections, order separately the common connector assemblies listed above.

Monoblock Manifold F Type (Direct Piping) Order Code

■ Valve size

F10M
10mm width
Effective area 5mm²

F15M
15mm width
Effective area 10mm²

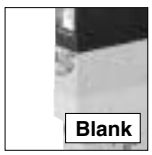
F18M
18mm width
Effective area 18mm²

■ Valve specification

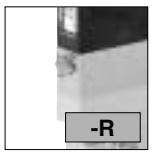
T0 : 2-position, for single solenoid only
T1 : 2-position, single solenoid specification
T2 : 2-position, double solenoid specification
T3 : 3-position, all port block
T4 : 3-position, ABR connection
T5 : 3-position, PAB connection

■ Manual override

Manual override

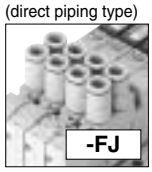


Manual lever override (made to order) Note2



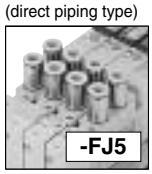
■ Valve output type

With different size fitting block (direct piping type)



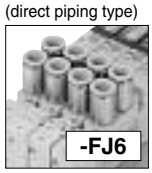
Output port fitting
F10 : φ4, φ6
F15 : φ6, φ8
F18 : φ8, φ10

With output port single size fitting block (direct piping type)



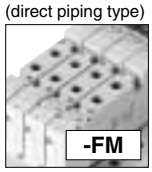
Output port fitting
F10 : φ4
F15 : φ6
F18 : φ8

With output port single size fitting block (direct piping type)



Output port fitting
F10 : φ6
F15 : φ8
F18 : φ10

With female thread block (direct piping type)



Output port female thread
F10 : M5×0.8
F15 : Rc1/8
F18 : Rc1/4

■ Wiring specification

L type plug connector
Without connector

S type plug connector
Without connector

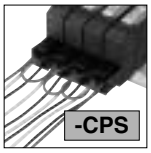
S type plug connector
Lead wire 300mm

L type plug connector
Lead wire 300mm

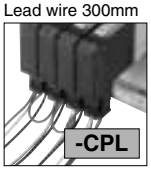
S type plug connector
Lead wire 3000mm

L type plug connector
Lead wire 3000mm

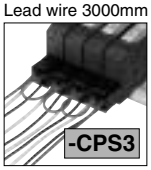
Plus common pre-wiring connection
S type plug connector
Lead wire 300mm



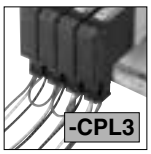
Plus common pre-wiring connection
L type plug connector
Lead wire 300mm



Plus common pre-wiring connection
S type plug connector
Lead wire 3000mm



Plus common pre-wiring connection
L type plug connector
Lead wire 3000mm



■ Individual air supply and exhaust spacer

Blank : Without spacer
-NPM : Individual air supply spacer (with M5 female thread for F10)
-NP6 : Individual air supply spacer (with φ6 fitting for F15)
-NP8 : Individual air supply spacer (with φ8 fitting for F15 and F18)
-NP0 : Individual air supply spacer (with φ10 fitting for F18)
-NRM : Individual exhaust spacer (with M5 female thread for F10)
-NR6 : Individual exhaust spacer (with φ6 fitting for F15)
-NR8 : Individual exhaust spacer (with φ8 fitting for F15 and F18)
-NR0 : Individual exhaust spacer (with φ10 fitting for F18)

For details, see p.516.

Note: Valves of different sizes can not be combined together for mounting.

Manifold model			Mounting valve models								
Valve size	Valve units		Station	Valve size	Valve specification	Manual override	Valve output type	Wiring specification	Individual air supply and exhaust spacer		Voltage
F10M F15M F18M	2 ⋮ 20	F	stn. 1 ⋮ stn.□ Note1	F10 F15 F18	T0 T3 T1 T4 T2 T5	Blank -R Note 2	-FJ -FJ5 -FJ6 -FM	Blank -PN -CPS -PS -CPL -PL -CPS3 -PS3 -CPL3 -PL3	Blank -NPM -NRM -NP6 -NR6 -NP8 -NR8 -NP0 -NR0		DC24V DC12V AC100V
					BP (for block-off plate)						

Notes 1: Valve mounting location from the left, with solenoid on top, and A and B ports front.
2: The manual lever override is made to order. Contact us for the delivery. When the valve specifications are **T1** or **T2**, the manual lever override is placed on the A side only.
Remark: The external pilot valve cannot be mounted on the F type manifold.

Additional Parts Order Code for Monoblock Manifold F Type

Gasket (gasket and exhaust valve)

F□Z - GS1

Valve size
10：10mm width
15：15mm width
18：18mm width

Block-off plate (block-off plate and 2 mounting screws)

F□BP

Valve size
10：10mm width
15：15mm width
18：18mm width

Connector-related order code

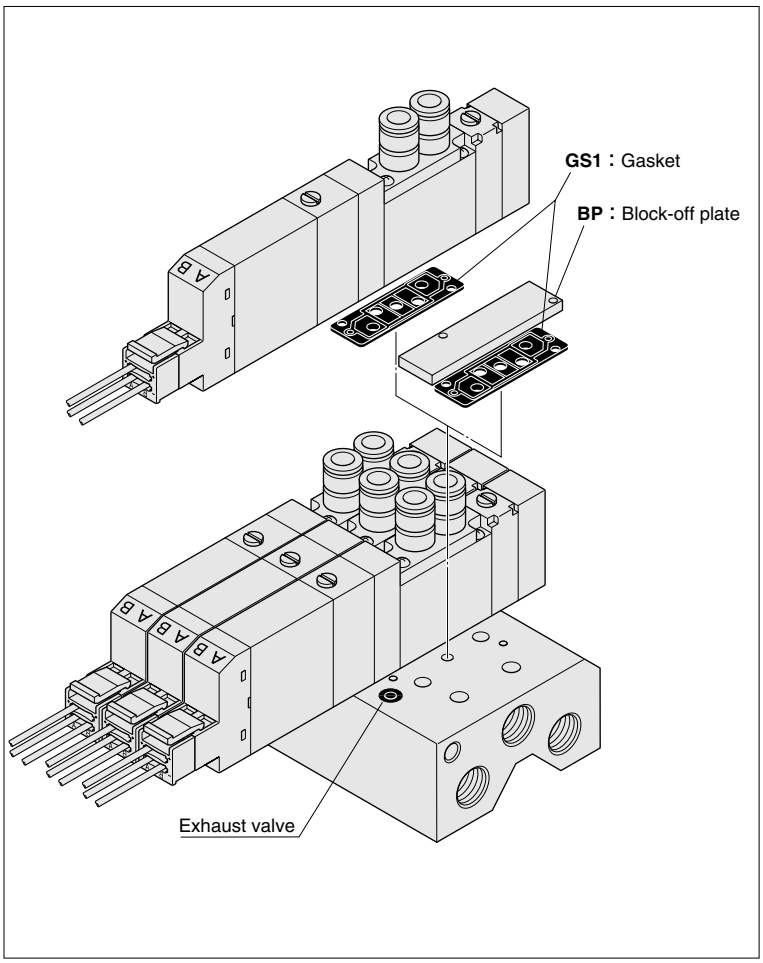
FZ□ - □

Valve specification
Blank： For **T1, T2, T3, T4, T5**
0： For **T0**

※For details, see p.513.

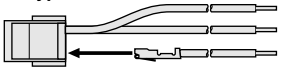
Connector specification
CP : Connector, lead wire length 300mm
CP3 : Connector, lead wire length 3000mm
CLN : Connector without lead wire (short bar, contacts included)
PA : Plus common A type, lead wire length 300mm※
PA3 : Plus common A type, lead wire length 3000mm※
PB : Plus common B type, lead wire length 300mm※
PB3 : Plus common B type, lead wire length 3000mm※
PC : Plus common C type, lead wire length 300mm※
PC3 : Plus common C type, lead wire length 3000mm※
CC1.5 : Cabtire cable, length 1500mm Note※
CC3 : Cabtire cable, length 3000mm Note※

Note: Not available for **T0**.



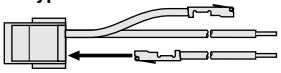
●Common connector assembly

A type：FZ-PA□※



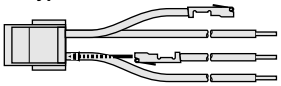
Red Common wire (+)
Black A side (–)
White B side (–) (Insert when using as double solenoid) Note

B type：FZ-PB□※



Red Common wire (+)
Black A side (–)
White B side (–) (Insert when using as double solenoid) Note

C type：FZ-PC□※



Red Common wire (+)
Black A side (–)
White B side (–) (Insert when using as double solenoid) Note
Red Common wire (+)

※: Lead wire length **Blank:** 300mm
3: 3000mm

Note: White lead wire is not available for **FZ0-P□□**.

Individual air supply and exhaust spacer (Spacer for non-plug-in type, gasket, exhaust valve and 2 mounting screws)

F□Z - □

Valve size
10：10mm width
15：15mm width
18：18mm width

Specification
NPM: Individual air supply spacer (with M5 female thread for F10)
NP6: Individual air supply spacer (with φ6 fitting for F15)
NP8: Individual air supply spacer (with φ8 fitting for F15 and F18)
NP0: Individual air supply spacer (with φ10 fitting for F18)
NRM: Individual exhaust spacer (with M5 female thread for F10)
NR6: Individual exhaust spacer (with φ6 fitting for F15)
NR8: Individual exhaust spacer (with φ8 fitting for F15 and F18)
NR0: Individual exhaust spacer (with φ10 fitting for F18)

※For details, see p. 516.

Manifold Order Code Example
(4 units of F10 Series)

F10M4F

stn.1～2 **F10T0-FJ5-PS DC24V**
stn.3 **F10T2-FJ6-PS DC24V**
stn.4 **F10BP**

Note: This order code example has no relation to the illustration at upper right.

Muffler

KM - J□

Fitting size
6 : Outer diameter φ6 (for individual exhaust spacer)
8 : Outer diameter φ8 (for individual exhaust spacer)
10 : Outer diameter φ10 (for individual exhaust spacer)
(Sales unit: Set of 10 mufflers)

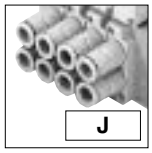
Precautions for Order Code

● **Orders for valves only**
Place orders from "Single Valve Unit Order Code" on p. 532.
Select from valve types **-FJ, -FJ5, -FJ6,** or **-FM.** In addition, for common terminal wiring connections, order separately the common connector assemblies listed above.

PC Board Manifold A Type (Base Piping) Order Code

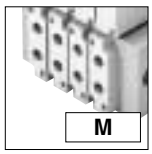
■ Manifold output specification

With different size fitting block (base piping type)



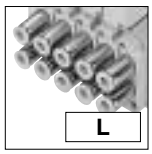
Output port fitting
F10：φ4, φ6
F15：φ6, φ8

With female thread block (base piping type)



Output port female thread
F10：M5×0.8
F15：Rc1/8

With single size fitting block (base piping type)



Output port fitting
F10：φ4 or φ6
F15：φ6 or φ8

■ Pilot specification

Blank
Internal pilot manifold

G
External pilot manifold

■ Wiring specification (wiring block)

Flat cable connector (with socket and strain relief)

-F200：20-pin
-F201：20-pin
For details, see p.558.

■ Wiring connection specification

-S
Single wiring: Wiring as single solenoid only.
Note: This is not the same as packed wiring.

-W
Double wiring: Wiring is always for the double solenoid, regardless of the specifications of the mounted valve.

■ Individual air supply and exhaust spacer

Blank : Without spacer
-NPM : Individual air supply spacer (with M5 female thread for F10)
-NP6 : Individual air supply spacer (with φ6 fitting for F15)
-NP8 : Individual air supply spacer (with φ8 fitting for F15)
-NRM : Individual exhaust spacer (with M5 female thread for F10)
-NR6 : Individual exhaust spacer (with φ6 fitting for F15)
-NR8 : Individual exhaust spacer (with φ8 fitting for F15)
For details, see p.516.

■ Operation method

Blank
Internal pilot type Note6

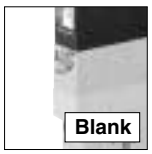
G
External pilot type Note7 (for positive pressure)

V
External pilot type Note7 (for vacuum)※
※: This is a vacuum valve.

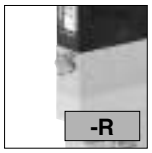
Note: Cannot be combined with a valve for positive pressure.

■ Manual override

Manual override

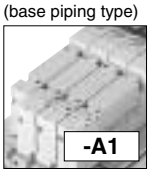


Manual lever override (made to order) Note8



■ Valve output type

With plate Note 9 (base piping type)

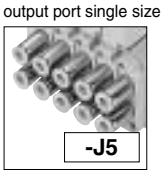


■ Wiring specification

S type plug connector
Lead wire for PC board Note9

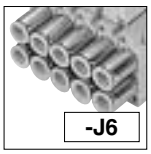
■ Manifold fitting specification

Manifold side output port single size fitting



Output port fitting
F10：φ4
F15：φ6

Manifold side output port single size fitting



Output port fitting
F10：φ6
F15：φ8

■ Valve specification

T0 : 2-position, for single solenoid only
T1 : 2-position, single solenoid specification
T2 : 2-position, double solenoid specification
T3 : 3-position, all port block
T4 : 3-position, ABR connection Note 10
T5 : 3-position, PAB connection Note 10

■ Valve size

F10M
10mm width, Effective area 5mm²

F15M
15mm width, Effective area 10mm²

Note: Valves of different sizes can not be combined together for mounting.

	Valve size	Valve units	Manifold output specification	Pilot specification	Wiring specification	Wiring connection specification	Station	Valve size	Valve specification	Operation method	Manual override	Valve output type	Wiring specification	Manifold fitting specification	Individual air supply and exhaust spacer	Voltage
	Manifold model							Mounting valve models								
Single wiring type Note 1	F10M	6 8 10 12 14 16 Note3	AP	J M	Blank G	-F200 -F201	-S	stn. 1 ⋮ stn.□ Note4	F10 F15	T0 T1 Note5	Blank Note6 G Note7 V Note7	Blank -R Note8	-A1 Note9	-PP Note9		Blank -NPM -NRM -NP6 -NR6 -NP8 -NR8	DC24V DC12V
										BPC (for block-off plate)						
				L	Blank G	-F200 -F201	-S	stn. 1 ⋮ stn.□ Note4	F10 F15	T0 T1 Note5	Blank Note6 G Note7 V Note7	Blank -R Note8	-A1 Note9	-PP Note9	-J5 -J6	Blank -NPM -NRM -NP6 -NR6 -NP8 -NR8	DC24V DC12V
										BPC (for block-off plate)						
Double wiring type Note 2	F15M	6 8 Note3	AP	J M	Blank G	-F200 -F201	-W	stn. 1 ⋮ stn.□ Note4	F10 F15	T0 T3 T1 T4 Note10 T2 T5 Note10	Blank Note6 G Note7 V Note7	Blank -R Note8	-A1 Note9	-PP Note9 Note11		Blank -NPM -NRM -NP6 -NR6 -NP8 -NR8	DC24V DC12V
										BPC (for block-off plate)						
				L	Blank G	-F200 -F201	-W	stn. 1 ⋮ stn.□ Note4	F10 F15	T0 T3 T1 T4 Note10 T2 T5 Note10	Blank Note6 G Note7 V Note7	Blank -R Note8	-A1 Note9	-PP Note9 Note11	-J5 -J6	Blank -NPM -NRM -NP6 -NR6 -NP8 -NR8	DC24V DC12V
										BPC (for block-off plate)						

Notes: 1. Wiring as single solenoid only. Note that this is not the same as packed wiring. The mounting valves are limited to single solenoid only (**T0, T1** specifications). Therefore, even if the **T1** specification valve is switched over to a double solenoid, no current will be applied to the B side solenoid.
2. Wiring is always for the double solenoid, regardless of the specifications of the mounted valve.
3. Number of units in terms of the wiring connection specifications are, for single wiring, 6 ~16 (even numbers only), and for double wiring, 6 or 8.
4. Valve mounting location from the left, with solenoid on top, and A and B ports front.
5. The mounting valves are limited to **T0, T1** specifications only (single solenoid specifications). In addition, even if the **T1** specification valve is switched over to a double solenoid, no current will be applied to the B side solenoid.
6. Cannot be mounted on the external pilot manifold.
7. Cannot be mounted on the internal pilot manifold.
8. The manual lever override is made to order. Contact us for the delivery. When the valve specifications are **T1** or **T2**, the manual lever override is placed on the A side only.
9. Always enter **-A1** or **-PP**.
10. Not available for the vacuum valve.
11. Lead wire on solenoid B side (white) is not available for the valve specification **T0**.

Additional Parts Order Code for PC Board Manifold A Type

Gasket (gasket and exhaust valve)

F□Z - GS1

Valve size
10：10mm width
15：15mm width

Block-off plate

(block-off plate, 2 mounting screws and housing)

F□BPC

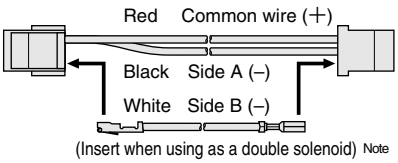
Valve size
10：10mm width
15：15mm width

Connector-related order code

FZ□ - □

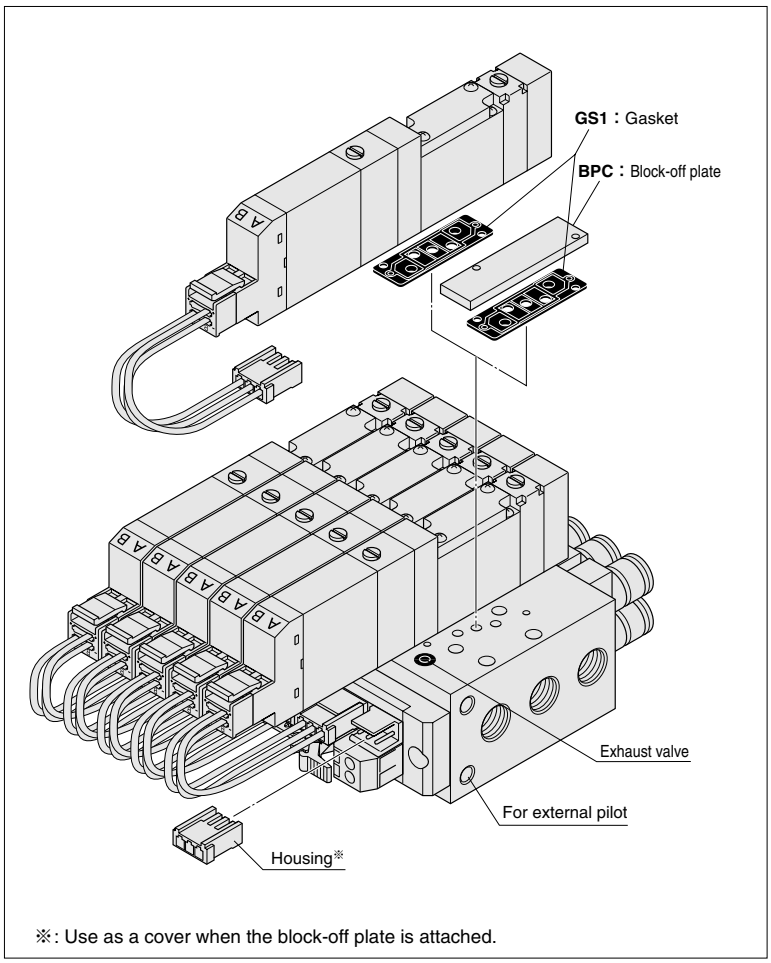
Valve specification
Blank： For **T1, T2, T3, T4, T5**
0： For **T0**

Connector specification
P10： For F10 series
Connector lead wire for PC board manifold
P15： For F15 series
Connector lead wire for PC board manifold



(Insert when using as a double solenoid) Note

Note: White lead wire is not available for **FZ0-P□**.



※: Use as a cover when the block-off plate is attached.

Individual air supply and exhaust spacer

(Spacer for non-plug-in type, gasket, exhaust valve and 2 mounting screws)

F□Z - □

Valve size
10：10mm width
15：15mm width

Specification
NPM： Individual air supply spacer (with M5 female thread for F10)
NP6： Individual air supply spacer (with ϕ 6 fitting for F15)
NP8： Individual air supply spacer (with ϕ 8 fitting for F15)
NRM： Individual exhaust spacer (with M5 female thread for F10)
NR6： Individual exhaust spacer (with ϕ 6 fitting for F15)
NR8： Individual exhaust spacer (with ϕ 8 fitting for F15)

※For details, see p.516.

Manifold Order Code Example

(8 units of F10 Series)

F10M8APL-F201-W

stn.1～4 F10T0-A1-PP-J5 DC24V
stn.5～7 F10T2-A1-PP-J6 DC24V
stn.8 F10BPC-J6

Note: This order code example has no relation to the illustration at upper right.

Muffler

KM - J□

Fitting size
6： Outer diameter ϕ 6 (for individual exhaust spacer)
8： Outer diameter ϕ 8 (for individual exhaust spacer)
10： Outer diameter ϕ 10 (for individual exhaust spacer)
(Sales unit: Set of 10 mufflers)

Precautions for Order Code

● **Orders for valves only**

Use the code | Valve size | Valve specification | Pilot specification | Manual override | - | Valve output type | - **PP** | Voltage | to order.

If the lead wire for PC board is not necessary, enter **-PN.**

● **Wiring connection specification**

-S (single wiring): Wiring as single solenoid only.
-W (double wiring): Wiring is always for the double solenoid, regardless of the specifications of the mounted valve.

PC Board Manifold F Type (Direct Piping) Order Code

■ Valve size

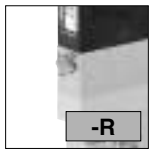
F10M
10mm width
Effective area 5mm²

F15M
15mm width
Effective area 10mm²

■ Manual override

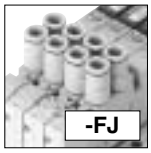
Manual override

Manual lever override (made to order) Note6



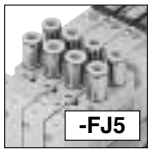
■ Valve output type

With different size fitting block (direct piping type)



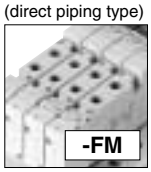
Output port fitting
F10：φ4, φ6
F15：φ6, φ8

With output port single size fitting block (direct piping type)



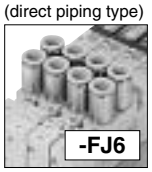
Output port fittings
F10：φ4
F15：φ6

With female thread block (direct piping type)



Output port female thread
F10：M5×0.8
F15：Rc1/8

With output port single size fitting block (direct piping type)



Output port fitting
F10：φ6
F15：φ8

■ Wiring specification

S type plug connector
Lead wire for PC board

■ Wiring specification (wiring block)

Flat cable connector
(with socket and strain relief)

-F200：20-pin
-F201：20-pin
For details, see p. 558.

■ Individual air supply and exhaust spacer

Blank: Without spacer
-NPM: Individual air supply spacer (with M5 female thread for F10)
-NP6: Individual air supply spacer (with φ6 fitting for F15)
-NP8: Individual air supply spacer (with φ8 fitting for F15)
-NRM: Individual exhaust spacer (with M5 female thread for F10)
-NR6: Individual exhaust spacer (with φ6 fitting for F15)
-NR8: Individual exhaust spacer (with φ8 fitting for F15)
For details, see p.516.

■ Wiring connection specification

-S
Single wiring: Wiring as single solenoid only.
Note: This is not the same as packed wiring.

-W
Double wiring: Wiring is always for the double solenoid, regardless of the mounted valve type.

■ Valve specification

T0: 2-position, for single solenoid only
T1: 2-position, single solenoid specification
T2: 2-position, double solenoid specification
T3: 3-position, all port block
T4: 3-position, ABR connection
T5: 3-position, PAB connection

Note: Valves of different sizes can not be combined together for mounting.

	Manifold model					Mounting valve models							
	Valve size	Valve units	Wiring specification	Wiring connection specification	Station	Valve size	Valve specification	Manual override	Valve output type	Wiring specification	Individual air supply and exhaust spacer	Voltage
Single wiring type Note1	F10M F15M	6 8 10 12 14 16 Note3	FP	-F200 -F201	-S	stn. 1 ⋮ stn.□ Note4	F10 F15	T0 T1 Note5	Blank -R Note6	-FJ -FJ5 -FJ6 -FM	-PP Note7	Blank -NPM -NRM -NP6 -NR6 -NP8 -NR8	DC24V DC12V
								BPC (for block-off plate)					
Double wiring type Note2	F10M F15M	6 8 Note3	FP	-F200 -F201	-W	stn. 1 ⋮ stn.□ Note4	F10 F15	T0 T3 T1 T4 T2 T5	Blank -R Note6	-FJ -FJ5 -FJ6 -FM	-PP Note7 Note8	Blank -NPM -NRM -NP6 -NR6 -NP8 -NR8	DC24V DC12V
								BPC (for block-off plate)					

Notes: 1. Wiring as single solenoid only. Note that this is not the same as packed wiring. The mounting valves are limited to single solenoid only (**T0, T1** specifications). Therefore, even if the **T1** specification valve is switched over to a double solenoid, no current will be applied to the B side solenoid.
2. Wiring is always for the double solenoid, regardless of the specifications of the mounted valve.
3. Number of units in terms of the wiring connection specifications are, for single wiring 6～16 (even numbers only), and for double wiring, 6 or 8.
4. Valve mounting location from the left, with solenoid on top, and A and B ports front.
5. The mounting valves are limited to **T0, T1** specifications only (single solenoid specifications). In addition, even if the **T1** specification valve is switched over to a double solenoid, no current will be applied to the B side solenoid.
6. The manual lever override is made to order. Contact us for the delivery. When the valve specifications are **T1** or **T2**, the manual lever override is placed on the A side only.
7. Always enter **-PP**.
8. Lead wire on solenoid B side (white) is not available for the valve specification **T0**.

Additional Parts Order Code for PC Board Manifold F Type

Gasket (gasket and exhaust valve)

F□Z - GS1

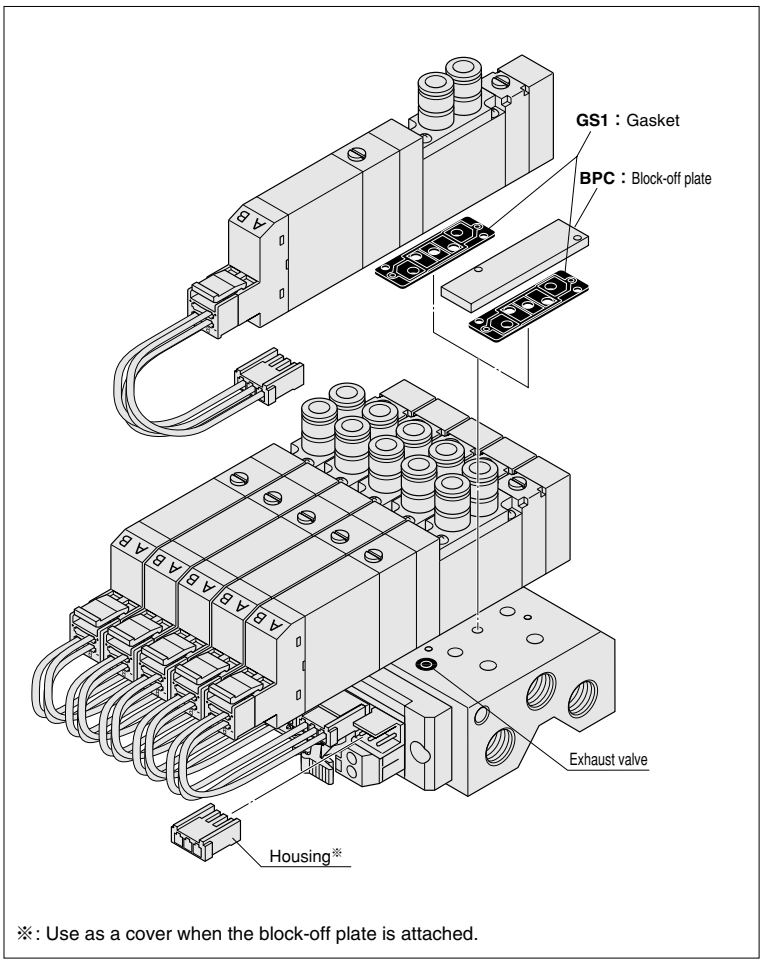
Valve size
10：10mm width
15：15mm width

Block-off plate

(block-off plate, 2 mounting screws and housing)

F□BPC

Valve size
10：10mm width
15：15mm width



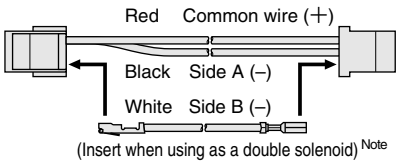
※: Use as a cover when the block-off plate is attached.

Connector-related order code

FZ□ - □

Valve specification
Blank： For **T1, T2, T3, T4, T5**
0： For **T0**

Connector specification
P10： For F10 series
Connector lead wire for PC board manifold
P15： For F15 series
Connector lead wire for PC board manifold



Note: White lead wire is not available for **FZ0-P□**.

Individual air supply and exhaust spacer

(Spacer for non-plug-in type, gasket, exhaust valve and 2 mounting screws)

F□Z - □

Valve size
10：10mm width
15：15mm width

Specification
NPM： Individual air supply spacer (with M5 female thread for F10)
NP6： Individual air supply spacer (with φ6 fitting for F15)
NP8： Individual air supply spacer (with φ8 fitting for F15)
NRM： Individual exhaust spacer (with M5 female thread for F10)
NR6： Individual exhaust spacer (with φ6 fitting for F15)
NR8： Individual exhaust spacer (with φ8 fitting for F15)

※For details, see p.516.

Manifold Order Code Example

(8 units of F10 Series)

F10M8FP-F201-W

stn.1～4 F10T0-FJ5-PP DC24V
stn.5～7 F10T2-FJ6-PP DC24V
stn.8 F10BPC

Note: This order code example has no relation to the illustration at upper right.

Muffler

KM - J□

Fitting size
6： Outer diameter φ6 (for individual exhaust spacer)
8： Outer diameter φ8 (for individual exhaust spacer)
10： Outer diameter φ10 (for individual exhaust spacer)
(Sales unit: Set of 10 mufflers)

Precautions for Order Code

● **Orders for valves only**

Use the code Valve size | Valve specification | Manual override - Valve output type - **PP** | Voltage to order.

If the lead wire for PC board is not necessary, enter **-PN.**

● **Wiring connection specification**

-S (single wiring): Wiring as single solenoid only.
-W (double wiring): Wiring is always for the double solenoid, regardless of the specifications of the mounted valve.

Split Manifold Non-Plug-in Type Order Code

■Valve size

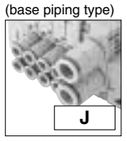
F10M
10mm width
Effective area 5mm²

F15M
15mm width
Effective area 10mm²

F18M
18mm width
Effective area 18mm²

■Manifold output specification

With different size fitting block (base piping type)

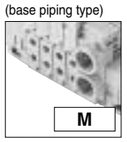


Output port fitting
F10 : ϕ4, ϕ6
F15 : ϕ6, ϕ8
F18 : ϕ8, ϕ10

With single size fitting block (base piping type)

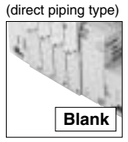
Output port fitting
F10 : ϕ4 or ϕ6
F15 : ϕ6 or ϕ8
F18 : ϕ8 or ϕ10

With female thread block (base piping type)



Output port female thread
F10 : M5×0.8
F15 : Rc1/8
F18 : Rc1/4

With plate (direct piping type)



■Pilot specification

Blank
Internal pilot manifold

G
External pilot manifold

■Piping block specification

Different size fitting block
-JR : Different size fitting, right-side mounting
-JL : Different size fitting, left-side mounting
-JD : Different size fitting, both-sides mounting
Fitting size (P and R ports)
F10, F15 : ϕ8, ϕ10 **F18 :** ϕ12 only

Female thread block
-MR : Female thread, right-side mounting
-ML : Female thread, left-side mounting
-MD : Female thread, both-side mounting
Female thread size (P and R ports)
F10, F15 : Rc1/4 **F18 :** Rc3/8

Single size fitting block (F18 cannot be selected)
-J5R : Single size fitting, right-side mounting
-J5L : Single size fitting, left-side mounting
-J5D : Single size fitting, both-side mounting
Fitting size (P and R ports) **F10** and **F15 :** ϕ8
-J6R : Single size fitting, right-side mounting
-J6L : Single size fitting, left-side mounting
-J6D : Single size fitting, both-side mounting
Fitting size (P and R ports) **F10** and **F15 :** ϕ10

■Valve specification

T0 : 2-position, for single solenoid only
T1 : 2-position, single solenoid specification
T2 : 2-position, double solenoid specification
T3 : 3-position, all port block
T4 : 3-position, ABR connection
T5 : 3-position, PAB connection

■Operation method

Blank
Internal pilot type Note5

G
External pilot type Note6
(for positive pressure)
※ No vacuum valve can be mounted.

■ Manual override

Manual override

Manual lever override (made to order) Note2

Note: Valves of different sizes can not be combined together for mounting.

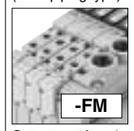
■Valve output type

With plate Note3 (base piping type)

With different size fitting block (direct piping type)

Output port fitting
F10 : ϕ4, ϕ6
F15 : ϕ6, ϕ8
F18 : ϕ8, ϕ10

With female thread block (base piping type)



Output port female thread
F10 : M5×0.8
F15 : Rc1/8
F18 : Rc1/4

With output port single size fitting block (direct piping type)

Output port fitting
F10 : ϕ4
F15 : ϕ6
F18 : ϕ8

With output port single size fitting block (direct piping type)

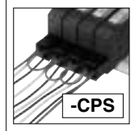
Output port fitting
F10 : ϕ6
F15 : ϕ8
F18 : ϕ10

■Wiring specification

S type plug connector Without connector

S type plug connector Lead wire 300mm

Plus common pre-wiring connection S type plug connector Lead wire 300mm



S type plug connector Lead wire 3000mm

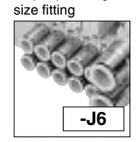
Plus common pre-wiring connection S type plug connector Lead wire 3000mm

■Manifold fitting specification

Manifold side output port single size fitting

Output port fitting
F10 : ϕ4
F15 : ϕ6
F18 : ϕ8

Manifold side output port single size fitting



Output port fitting
F10 : ϕ6
F15 : ϕ8
F18 : ϕ10

■Split

Blank : Without split
-SP : For P port Note4
-SR : For R port Note4
-SA : For both P and R ports Note4

■Individual air supply and exhaust spacer

Blank : Without spacer
-NPM : Individual air supply spacer (with M5 female thread for F10)
-NP6 : Individual air supply spacer (with ϕ6 fitting for F15)
-NP8 : Individual air supply spacer (with ϕ8 fitting for F15 and F18)
-NP0 : Individual air supply spacer (with ϕ10 fitting for F18)
-NRM : Individual exhaust spacer (with M5 female thread for F10)
-NR6 : Individual exhaust spacer (with ϕ6 fitting for F15)
-NR8 : Individual exhaust spacer (with ϕ8 fitting for F15 and F18)
-NR0 : Individual exhaust spacer (with ϕ10 fitting for F18)
For details, see p.516.

	Valve size	Valve units		Manifold output specification	Pilot specification	Piping block specification		Station	Valve size	Valve specification	Operation method	Manual override	Valve output type	Wiring specifications	Manifold fitting specification	Individual air supply and exhaust spacer		Split	Voltage
	Manifold model							Mounting valve models											
Base piping type	F10M F15M F18M	2 ⋮ 20	N	J M	Blank G	-JR -JL -JD -MR -ML -MD	-J5R Note7 -J6R Note7 -J5L Note7 -J6L Note7 -J5D Note7 -J6D Note7	stn. 1 ⋮ stn.□ Note1	F10 F15 F18	T0 T3 T1 T4 T2 T5	Blank Note5 G Note6	Blank -R Note2	-A1 Note3	-PN -PS -PS3 -CPS -CPS3		Blank -NPM -NRM -NP6 -NR6 -NP8 -NR8 -NP0 -NR0		Blank -SP Note4 -SR Note4 -SA Note4	DC24V DC12V AC100V
										BPN (for block-off plate)									
Base piping type single size fitting	F10M F15M F18M	2 ⋮ 20	N	L	Blank G	-JR -JL -JD -MR -ML -MD	-J5R Note7 -J6R Note7 -J5L Note7 -J6L Note7 -J5D Note7 -J6D Note7	stn. 1 ⋮ stn.□ Note1	F10 F15 F18	T0 T3 T1 T4 T2 T5	Blank Note5 G Note6	Blank -R Note2	-A1 Note3	-PN -PS -PS3 -CPS -CPS3	-J5 -J6	Blank -NPM -NRM -NP6 -NR6 -NP8 -NR8 -NP0 -NR0		Blank -SP Note4 -SR Note4 -SA Note4	DC24V DC12V AC100V
										BPN (for block-off plate)									
Direct piping type	F10M F15M F18M	2 ⋮ 20	N	Blank	Blank G	-JR -JL -JD -MR -ML -MD	-J5R Note7 -J6R Note7 -J5L Note7 -J6L Note7 -J5D Note7 -J6D Note7	stn. 1 ⋮ stn.□ Note1	F10 F15 F18	T0 T3 T1 T4 T2 T5	Blank Note5 G Note6	Blank -R Note2	-FJ -FJ5 -FJ6 -FM	-PN -PS -PS3 -CPS -CPS3		Blank -NPM -NRM -NP6 -NR6 -NP8 -NR8 -NP0 -NR0		Blank -SP Note4 -SR Note4 -SA Note4	DC24V DC12V AC100V
										BPN (for block-off plate)									

Notes:
1. Valve mounting location is from the left, with solenoid on top, and A and B ports front.
2. The manual lever override is made to order. Contact us for the delivery. When the valve specifications are **T1** or **T2**, the manual lever override is placed on the A side only.
3. When selecting **J, M**, or **L** (base piping type) for the manifold output specification, always enter **-A1** (with plate) for the valve output type.
4. Splits can be installed only when piping blocks are mounted on both sides. In addition, only 1 piece split may be mounted in one manifold for **-SA**, or one each split for **-SP** and **-SR**, for a total of two locations. When in delivery, the designated splits are mounted between the designated station and the station to its immediate left (the next smaller stn. No.).
5. Cannot be mounted on the external pilot manifold.
6. Cannot be mounted on the internal pilot manifold.
7. F18 cannot be selected.

Additional Parts Order Code for Split Manifold Non-Plug-in Type

Manifold parts

F □ Z - □

Valve size
10：10mm width
15：15mm width
18：18mm width

Parts content
GS2 : Gasket (gasket and exhaust valve)
SP : Split (for P port)
SR : Split (for R port)
SA : Split (for both P and R ports)

Block-off plate (block-off plate, 2 mounting screws and plug※)

F □ BP N

※: No plug is included in F18.

Valve size
10：10mm width
15：15mm width
18：18mm width

For non-plug-in

Connector-related order code

FZ □ - □

Valve specification
Blank： For **T1, T2, T3, T4, T5**
0： For **T0**

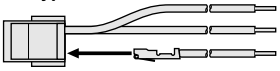
※For details, see p.513.

Connector specification
CP : Connector, lead wire length 300mm
CP3 : Connector, lead wire length 3000mm
CLN : Connector without lead wire (short bar, contacts included)
PA : Plus common A type, lead wire length 300mm※
PA3 : Plus common A type, lead wire length 3000mm※
PB : Plus common B type, lead wire length 300mm※
PB3 : Plus common B type, lead wire length 3000mm※
PC : Plus common C type, lead wire length 300mm※
PC3 : Plus common C type, lead wire length 3000mm※
CC1.5 : Cabtire cable, length 1500mm Note※
CC3 : Cabtire cable, length 3000mm Note※

Note: Not available for **T0**.

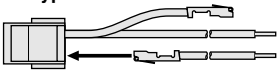
●Common connector assembly

A Type ：FZ-PA□※



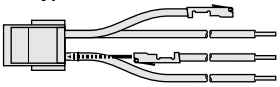
Red Common wire (+)
Black A side (–)
White B side (–) (Insert when using as double solenoid) Note

B Type：FZ-PB□※



Red Common wire (+)
Black A side (–)
White B side (–) (Insert when using as double solenoid) Note

C Type：FZ-PC□※



Red Common wire (+)
Black A side (–)
White B side (–) (Insert when using as double solenoid) Note
Red Common wire (+)

※: Lead wire length **Blank:** 300mm **3:** 3000mm

Note: White lead wire is not available for **FZ0-P□□**.

Valve base assembly (valve base and gasket)

F □ Z □ - □

Valve size
10：10mm width
15：15mm width
18：18mm width

Piping specification
VJ : Different size fitting valve base
VJ5 : Single size fitting valve base F10: φ4, F15: φ6, F18: φ8
VJ6 : Single size fitting valve base F10: φ6, F15: φ8, F18: φ10
VM : Female thread valve base
VP : Valve base plate

Pilot specification
Blank: Internal pilot※
G : External pilot (only for F10 and F15)

※ For F18, internal pilot and external pilot use are shareable.

Piping block assembly

F □ Z □ - □

Valve size
10：10mm width
15：15mm width
18：18mm width

Piping specification
PJ: Different size fitting piping block
(For F18, single size fitting φ12)
PJ5: Single size fitting piping block φ8
(For F18 cannot be selected)
PJ6: Single size fitting piping block φ10
(For F18 cannot be selected)
PM: Female thread piping block

Pilot specification
Blank : Internal pilot
G : External pilot

End blocks (one set of left and right)

F □ Z □ - E

Valve size
10：10mm width
15：15mm width
18：18mm width

Pilot specification
Blank : Internal pilot※
G : External pilot (only for F10 and F15)
※: For F18, internal pilot and external pilot use are shareable.

Independent air supply and exhaust spacer (Spacer for non-plug-in type, gasket, exhaust valve and 2 mounting screws)

F □ Z - □

Valve size
10：10mm width
15：15mm width
18：18mm width

Specification
NPM : Individual air supply spacer (with M5 female thread for F10)
NP6 : Individual air supply spacer (with φ6 fitting for F15)
NP8 : Individual air supply spacer (with φ8 fitting for F15 and F18)
NP0 : Individual air supply spacer (with φ10 fitting for F18)
NRM : Individual exhaust spacer (with M5 female thread for F10)
NR6 : Individual exhaust spacer (with φ6 fitting for F15)
NR8 : Individual exhaust spacer (with φ8 fitting for F15 and F18)
NR0 : Individual exhaust spacer (with φ10 fitting for F18)

※For details, see p.516.

Muffler

KM - J □

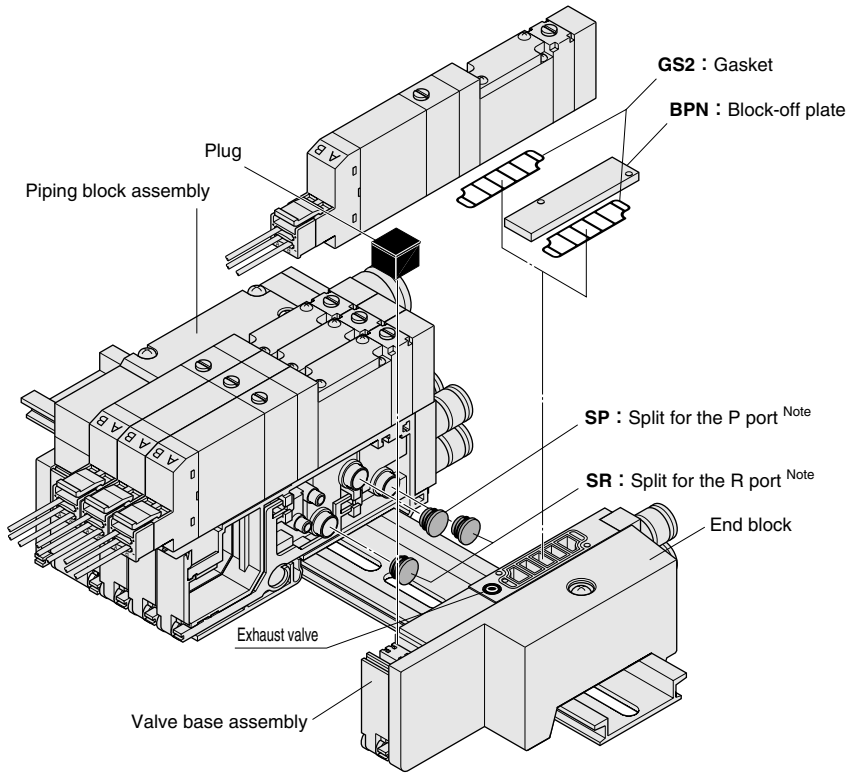
Fitting size
6 : Outer diameter φ6 (for individual exhaust spacer)
8 : Outer diameter φ8 (for individual exhaust spacer)
10 : Outer diameter φ10 (for F10, F15 and for individual exhaust spacer)
12 : Outer diameter φ12 (for F18)
(Sales unit: Set of 10 mufflers)

Connecting rod (F18 series only)

F18 Z - □ - □

Additional unit number
01~20 (01~04 for RH)
※For reduction of units, consult us.

Specification
RV: For valve base
RH: For piping and wiring base



Note: The F18 series split looks different in its appearance.
※The illustration shows the F10 series.

Manifold Order Code Example

（4 units of F10 Series）

F10M4NL-J5R

stn.1～2 F10T0-A1-PS-J5 DC24V
stn.3 F10T2-A1-PS-J6 DC24V
stn.4 F10BPN-J6

Note: This order code example has no relation to the illustration above.

Precautions for Order Code

●Orders for valves only

Place orders from “Single Valve Unit Order Code” on p. 532.
However, **Blank, A2, F3, F4, F5,** and **F6** cannot be selected for the valve output type. And for the wiring specification, **Blank, PL**, and **PL3** cannot be selected.
In addition, for common terminal wiring connections, separately order the common connector assemblies listed on the previous page.

Split Manifold Plug-in Type Order Code

■Manifold output specification

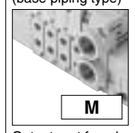
With different size fitting block (base piping type)

Output port fitting
F10 : ϕ4, ϕ6
F15 : ϕ6, ϕ8
F18 : ϕ8, ϕ10

With single size fitting block (base piping type)

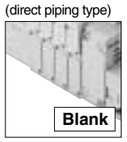
Output port fitting
F10 : ϕ4 or ϕ6
F15 : ϕ6 or ϕ8
F18 : ϕ8 or ϕ10

With female thread block (base piping type)



Output port female thread
F10 : M5×0.8
F15 : Rc1/8
F18 : Rc1/4

With plate (direct piping type)



■Pilot specification

Blank
Internal pilot manifold

G
External pilot manifold

■Piping block specification

Different size fitting block
-JR : Different size fitting, right-side mounting
-JL : Different size fitting, left-side mounting
-JD : Different size fitting, both-side mounting
Fitting size (P and R ports)
F10, F15 : ϕ8, ϕ10 **F18 :** ϕ12 only

Female thread block
-MR : Female thread, right-side mounting
-ML : Female thread, left-side mounting
-MD : Female thread, both-side mounting
Female thread size (P and R ports)
F10, F15 : Rc1/4 **F18 :** Rc3/8

Single size fitting block (F18 cannot be selected)
-J5R : Single size fitting, right-side mounting
-J5L : Single size fitting, left-side mounting
-J5D : Single size fitting, both-side mounting
Fitting size (P and R ports) **F10** and **F15 :** ϕ8
-J6R : Single size fitting, right-side mounting
-J6L : Single size fitting, left-side mounting
-J6D : Single size fitting, both-side mounting
Fitting size (P and R ports) **F10** and **F15 :** ϕ10

■Wiring specification (wiring block)

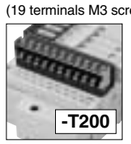
Flat cable connector (with socket and strain relief)

-F100 : 10-pin
-F101 : 10-pin
-F200 : 20-pin
-F201 : 20-pin
-F260 : 26-pin
For details, see p. 560.

D sub connector

(Fitting stand M2.6 screws)
-D250 : 25-pin
-D251 : 25-pin
For details, see p. 560.

Terminal block (19 terminals M3 screws)



Also can provide the terminal block with cover.[Note10]

■Wiring connection specification

Blank
Packed wiring: Wiring is made accordance with the mounted valve specifications.

-W
Double wiring: Wiring is always for the double solenoid, regardless of the specifications of the mounted valve.

■Wiring position (wiring block)

Blank : Left-side mounting
-R : Right-side mounting

■Valve specification

T0 : 2-position, for single solenoid only
T1 : 2-position, single solenoid specification
T2 : 2-position, double solenoid specification
T3 : 3-position, all port block
T4 : 3-position, ABR connection
T5 : 3-position, PAB connection

■Operation method

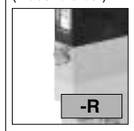
Blank
Internal pilot type [Note8]

G
External pilot type [Note9]
(for positive pressure)
※ No vacuum valve can be mounted.

■Manual override

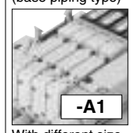
Manual override

Manual lever override (made to order) [Note6]



■Valve output type

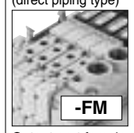
With plate [Note 4] (base piping type)



With different size fitting block (direct piping type)

Output port fitting
F10 : ϕ4, ϕ6
F15 : ϕ6, ϕ8
F18 : ϕ8, ϕ10

With female thread block (direct piping type)



Output port female thread
F10 : M5×0.8
F15 : Rc1/8
F18 : Rc1/4

With output port single size fitting block (direct piping type)

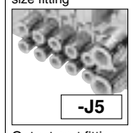
Output port fitting
F10 : ϕ4
F15 : ϕ6
F18 : ϕ8

With output port single size fitting block (direct piping type)

Output port fitting
F10 : ϕ6
F15 : ϕ8
F18 : ϕ10

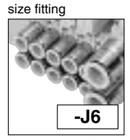
■Manifold fitting specification

Manifold side output port single size fitting



Output port fitting
F10 : ϕ4
F15 : ϕ6
F18 : ϕ8

Manifold side output port single size fitting



Output port fitting
F10 : ϕ6
F15 : ϕ8
F18 : ϕ10

■Individual air supply and exhaust spacer

Blank : Without spacer
-PPM : Individual air supply spacer (with M5 female thread for F10)
-PP6 : Individual air supply spacer (with ϕ6 fitting for F15)
-PP8 : Individual air supply spacer (with ϕ8 fitting for F15 and F18)
-PP0 : Individual air supply spacer (with ϕ10 fitting for F18)
-PRM : Individual exhaust spacer (with M5 female thread for F10)
-PR6 : Individual exhaust spacer (with ϕ6 fitting for F15)
-PR8 : Individual exhaust spacer (with ϕ8 fitting for F15 and F18)
-PR0 : Individual exhaust spacer (with ϕ10 fitting for F18)
For details, see p.516.

■Split

Blank : Without split
-SP : For P port [Note 7]
-SR : For R port [Note7]
-SA : For both P and R ports [Note7]

■Valve size

F10M
10mm width
Effective area 5mm²

F15M
15mm width
Effective area 10mm²

F18M
18mm width
Effective area 18mm²

Note: Valves of different sizes can not be combined together for mounting.

Valve size	Valve units	Manifold output specification	Pilot specification	Piping block specification	Wiring specification	Wiring connection specification	Wiring position	Voltage
Manifold model								
Base piping type	F10M F15M F18M	2 ⋮ □ Note1	P	J M	Blank G	-JR -J5R Note11 -JL -J6R Note11 -JD -J5L Note11 -MR -J6L Note11 -ML -J5D Note11 -MD -J6D Note11	-F100 -D250 -F101 -D251 -F200 -T200 -F201 -F260	Blank -W	Blank -R	DC24V DC12V Note2 AC100V
Base piping type single size fitting	F10M F15M F18M	2 ⋮ □ Note1	P	L	Blank G	-JR -J5R Note11 -JL -J6R Note11 -JD -J5L Note11 -MR -J6L Note11 -ML -J5D Note11 -MD -J6D Note11	-F100 -D250 -F101 -D251 -F200 -T200 -F201 -F260	Blank -W	Blank -R	DC24V DC12V Note2 AC100V
Direct piping type	F10M F15M F18M	2 ⋮ □ Note1	P	Blank	Blank G	-JR -J5R Note11 -JL -J6R Note11 -JD -J5L Note11 -MR -J6L Note11 -ML -J5D Note11 -MD -J6D Note11	-F100 -D250 -F101 -D251 -F200 -T200 -F201 -F260	Blank -W	Blank -R	DC24V DC12V Note2 AC100V

Station	Valve size	Valve specification	Operation method	Manual override	Valve output type	Manifold fitting specification	Individual air supply and exhaust spacer	Split	Voltage
Mounting valve models									
stn. 1 ⋮ stn.□ Note3	F10 F15 F18	T0 T3 T1 T4 T2 T5 BPP (for block-off plate) Note5	Blank Note8 G Note9	Blank -R Note6	-A1 Note4		Blank -PPM -PRM -PP6 -PR6 -PP8 -PR8 -PP0 -PR0	Blank -SP Note7 -SR Note7 -SA Note7	DC24V DC12V Note2 AC100V
stn. 1 ⋮ stn.□ Note3	F10 F15 F18	T0 T3 T1 T4 T2 T5 BPP (for block-off plate) Note5	Blank Note8 G Note9	Blank -R Note6	-A1 Note4	-J5 -J6	Blank -PPM -PRM -PP6 -PR6 -PP8 -PR8 -PP0 -PR0	Blank -SP Note7 -SR Note7 -SA Note7	DC24V DC12V Note2 AC100V
stn. 1 ⋮ stn.□ Note3	F10 F15 F18	T0 T3 T1 T4 T2 T5 BPP (for block-off plate) Note5	Blank Note8 G Note9	Blank -R Note6	-FJ -FJ5 -FJ6 -FM		Blank -PPM -PRM -PP6 -PR6 -PP8 -PR8 -PP0 -PR0	Blank -SP Note7 -SR Note7 -SA Note7	DC24V DC12V Note2 AC100V

Notes: 1. For the maximum number of units, see the table for the maximum number of valve units, by wiring specification, on p. 548.
2. AC100V is available only for the wiring specifications **-D250**, **-D251** (D sub connector) and **-T200** (terminal block).

Notes: 3. Valve mounting location is from the left, with the solenoid on top, and A and B port side in front.
4. When selecting **J, M,** or **L** (base piping type) for the manifold output specification, always enter **-A1** (with plate) for the valve output type.
5. Be aware that the block-off plate wiring is always double wiring (allocated 2 control pins at 1 stn.) regardless of the wiring connection specification.
6. The manual lever override is made to order. Contact us for the delivery. When the valve specifications are **T1** or **T2**, the manual lever override is placed on the A side only.
7. Splits can be installed only when piping blocks are mounted on both sides. In addition, only 1 piece split may be mounted in one manifold for **-SA**, or one each split for **-SP** and **-SR**, for a total of two locations. When in delivery, the designated splits are mounted between the designated station and the station to its immediate left (the next smaller stn. No.).
8. Cannot be mounted on the external pilot manifold.
9. Cannot be mounted on the internal pilot manifold.
10. The terminal block with cover (code: append **-139W** to the end of the manifold code) can also be provided as a made to order item. For details, contact us.
11. F18 cannot be selected.

Additional Parts Order Code for Split Manifold Plug-in Type

Manifold parts

F □ Z - □

Valve size
10：10mm width
15：15mm width
18：18mm width

Parts content
GS2：Gasket (gasket and exhaust valve)
SP：Split (for P port)
SR：Split (for R port)
SA：Split (for both P and R ports)

Block-off plate (block-off plate, 2 mounting screws and plug)

F □ BP P

Valve size
10：10mm width
15：15mm width
18：18mm width

For plug-in

Valve base assembly (valve base, gasket, lead wire and plug-in connector)

F □ Z □ - □ - □

Valve size
10：10mm width
15：15mm width
18：18mm width

Pilot specification
Blank : Internal pilot※
G : External pilot (only for F10 and F15)
※: For F18, internal pilot and external pilot use are shareable.

Piping specification
VJ : Different size fitting valve base
VJ5 : Single size fitting valve base F10: φ4, F15: φ6, F18: φ8
VJ6 : Single size fitting valve base F10: φ6, F15, φ8, F18: φ10
VM : Female thread valve base
VP : Valve base plate

Wiring specification
D: For D sub connector
F: For flat cable connector, terminal block

Piping block assembly

F □ Z □ - □

Valve size
10：10mm width
15：15mm width
18：18mm width

Piping specification
PJ : Different size fitting piping blocks (for F10 and F15)
PJ5 : Single size fitting piping block φ8 (Not available for F18)
PJ6 : Single size fitting piping block φ10 (Not available for F18)
PM : Female thread piping block (for F10, F15)
PJP : Fitting piping block (for F18 only)
PMP : Female thread piping block (for F18 only)

Pilot specification
Blank : Internal pilot
G : External pilot

End blocks (one set of left and right)

F □ Z □ - □

Valve size
10：10mm width
15：15mm width
18：18mm width

End block specification
E ：For F10, F15
EP：For F18

Pilot specification
Blank : Internal pilot※
G : External pilot (only for F10 and F15)
※: For F18, internal pilot and external pilot use are shareable.

Wiring block assembly (one set)

F □ Z □ - □ - □

Valve size
10：10mm width
15：15mm width
18：18mm width

Pilot specification
Blank : Internal pilot※
G : External pilot (Only for F10 and F15)
※ For F18, internal pilot and external pilot use are shareable.

Voltage (Not required for T200)
DC24
DC12
AC100(for **D250,D251**only)

Piping specification
F100 : Flat cable connector (DC specification)
F101 : Flat cable connector (DC specification)
F200 : Flat cable connector (DC specification)
F201 : Flat cable connector (DC specification)
F260 : Flat cable connector (DC specification)
D250 : D sub connector
D251 : D sub connector
T200L : Terminal block for left-side mounting
T200R : Terminal block for right-side mounting

Individual air supply and exhaust spacer (Spacer for plug-in type, gasket, exhaust valve and 2 mounting screws)

F □ Z - □

Valve size
10：10mm width
15：15mm width
18：18mm width

Specification
PPM : Individual air supply spacer (with M5 female thread for F10)
PP6 : Individual air supply spacer (with φ6 fitting for F15)
PP8 : Individual air supply spacer (with φ8 fitting for F15 and F18)
PP0 : Individual air supply spacer (with φ10 fitting for F18)
PRM : Individual exhaust spacer (with M5 female thread for F10)
PR6 : Individual exhaust spacer (with φ6 fitting for F15)
PR8 : Individual exhaust spacer (with φ8 fitting for F15 and F18)
PR0 : Individual exhaust spacer (with φ10 fitting for F18)

※For details, see p. 516.

Muffler

KM - J □

Fitting size
6 :Outer diameter φ6 (for individual exhaust spacer)
8 :Outer diameter φ8 (for individual exhaust spacer)
10 :Outer diameter φ10 (for F10, F15 and for individual exhaust spacer)
12 :Outer diameter φ12 (for F18)
(Sales unit: Set of 10 mufflers)

Connecting rod (F18 series only)

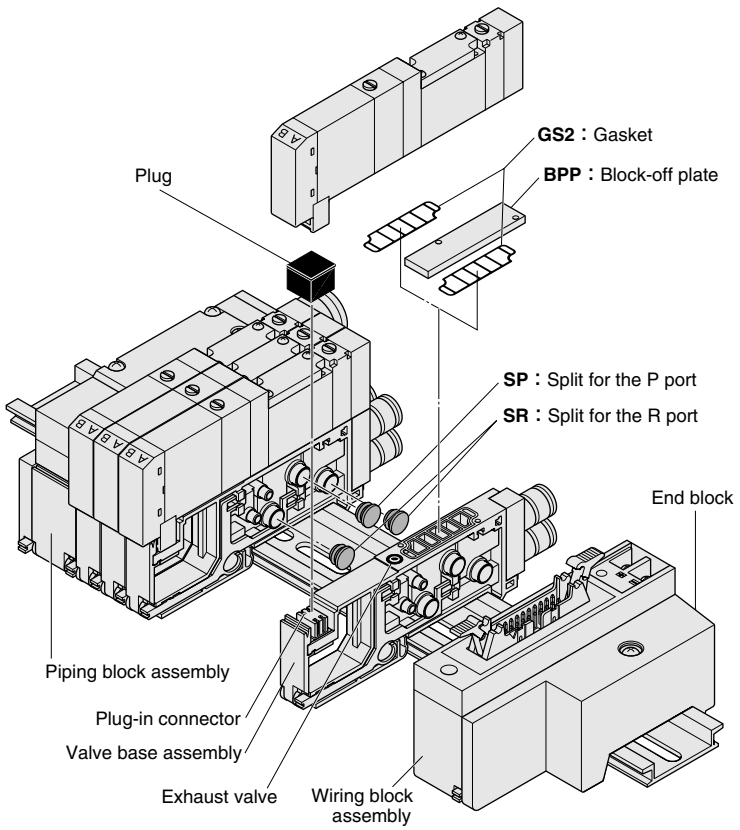
F18 Z - □ - □

Additional unit number
01~20 (01~04 for RH)
※Example: To add two valve units, enter **-02**.
※For reduction of units, consult us.

Specification
RV: For valve base
RH: For piping and wiring base

■Table for maximum number of valve units, by wiring specification

		Maximum number of units	
		Wiring connection specification	
Wiring specification	Max. control pts.	Packed wiring (**Blank**)	Double wiring (**-W**)
F100 Flat cable (10P)	8 points	Varies depending on the mounted number of single solenoids, double solenoids, and block-off plates. The number of controlled solenoids should be designated at the maximum number of control points or less.	4 units
F101 Flat cable (10P)	8 points		4 units
F200 Flat cable (20P)	16 points		8 units
F201 Flat cable (20P)	16 points		8 units
F260 Flat cable (26P)	20 points		10 units
D250 D sub connector (25P)	16 points		8 units
D251 D sub connector (25P)	20 points		10 units
T200 Terminal block (19 terminals)	18 points		9 units



Note: The F18 series split looks different in its appearance.
※The illustration shows the F10 series.

Manifold Order Code Example

（12 units of F10 Series）

F10M12PL-J5R-F201 DC24V

stn.1～8 F10T0-A1-J5 DC24V
stn.9～11 F10T2-A1-J6 DC24V
stn.12 F10BPP-J6

Note: This order code example has no relationship to the illustration above.

Precautions for Order Code

●**Orders for valves only**

Place orders from “Single Valve Unit Order Code” on p. 532.
However, **Blank, A2, F3, F4, F5,** and **F6** cannot be selected for the valve output type. For the wiring specification, **Blank** is the only selection.

●**Wiring connection specification**

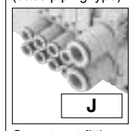
Blank (packed wiring) : Wiring is made accordance with the mounted valve specifications.
-W (double wiring) : Wiring is always for the double solenoid, regardless of the mounted valve specifications.

Serial Transmission Compatible Manifold Order Code

※For the order code for Omron CompoBus/D, see p. 554.

■Manifold output specification

With different size fitting block (base piping type)



J

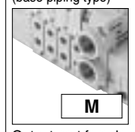
Output port fitting
F10 : φ4, φ6
F15 : φ6, φ8
F18 : φ8, φ10

With single size fitting block (base piping type)

L

Output port fitting
F10 : φ4 or φ6
F15 : φ6 or φ8
F18 : φ8 or φ10

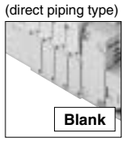
With female thread block (base piping type)



M

Output port female thread
F10 : M5×0.8
F15 : Rc1/8
F18 : Rc1/4

With plate (direct piping type)



Blank

■Valve size

F10M
10mm width
Effective area 5mm²

F15M
15mm width
Effective area 10mm²

F18M
18mm width
Effective area 18mm²

■Pilot specification

Blank
Internal pilot manifold

G
External pilot manifold

■Piping block specification

Different size fitting block
-JR : Different size fitting, right-side mounting
-JL : Different size fitting, left-side mounting
-JD : Different size fitting, both-side mounting
Fitting size (P and R ports)
F10, F15: φ8, φ10 **F18:** φ12 only

Female thread block
-MR : Female thread, right-side mounting
-ML : Female thread, left-side mounting
-MD Female thread, both-side mounting
Female thread size (P and R ports)
F10, F15: Rc1/4 **F18:** Rc3/8

Single size fitting block (F18 cannot be selected)
-J5R : Single size fitting, right-side mounting
-J5L : Single size fitting, left-side mounting
-J5D : Single size fitting, both-side mounting
Fitting size (P and R ports) **F10** and **F15:** φ8
-J6R : Single size fitting, right-side mounting
-J6L : Single size fitting, left-side mounting
-J6D : Single size fitting, both-side mounting
Fitting size (P and R ports) **F10** and **F15:** φ10

■Transmission block specification

※ These are the serial transmission block specifications compatible with each system.

F10, F15 series

For details, see p. 525 ～ 527.

●Delivered with mounted on the DIN rail.

F18 series

For details, see p. 525 ～ 527.

-01 : For UNI-WIRE System (16-point output)
-02 : For UNI-WIRE System (8-point output)
-11 : For Mitsubishi Electric MELSECNET/MINI-S3
-21 : For Omron SYSBUS Wire System
-31 : For Omron B7A Link Terminal (Standard)
-32 : For Omron B7A Link Terminal (High speed)
-41 : For Koyo Electronics Industries SA Bus (16-point output)
-42 : For Koyo Electronics Industries SA Bus (8-point output)
-51 : For Sunx S-LINK (16-point output)
-52 : For Sunx S-LINK (8-point output)
-61 : For Mitsubishi Electric MELSEC I/O LINK
-71 : For Fuji Electric T Link Mini
-81 : For Keyence KZ-R
-A1 : For Omron CompoBus/S (16-point output)
-A2 : For Omron CompoBus/S (8-point output)
-B1 : For Mitsubishi Electric CC-Link

■Wiring connection specification

Blank
Packed wiring: Wiring is made accordance with the mounted valve specifications.

-W
Double wiring: Wiring is always for the double solenoid, regardless of the specifications of the mounted valve.

■Wiring position (wiring block)

Blank : Left side mounting
-R : Right side mounting

■Valve specification

T0 : 2-position, for single solenoid only
T1 : 2-position, single solenoid specification
T2 : 2-position, double solenoid specification
T3 : 3-position, all port block
T4 : 3-position, ABR connection
T5 : 3-position, PAB connection

■Operation method

Blank
Internal pilot type[Note7]

G
External pilot type[Note8]
(for positive pressure)
※ No vacuum valve can be mounted.

■Manual override

Manual override

Blank

Manual lever override (made to order) [Note5]

-R

■Valve output type

With plate [Note3] (base piping type)

-A1

With different size fitting block (direct piping type)

-FJ

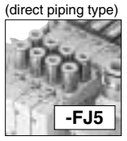
Output port fitting
F10 : φ4, φ6
F15 : φ6, φ8
F18 : φ8, φ10

With female thread block (direct piping type)

-FM

Output port female thread
F10 : M5×0.8
F15 : Rc1/8
F18 : Rc1/4

With output port single size fitting block (direct piping type)



-FJ5

Output port fitting
F10 : φ4
F15 : φ6
F18 : φ8

With output port single size fitting block (direct piping type)

-FJ6

Output port fitting
F10 : φ6
F15 : φ8
F18 : φ10

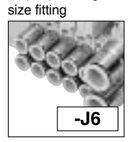
■Manifold fitting specification

Manifold side output port single size fitting

-J5

Output port fitting
F10 : φ4
F15 : φ6
F18 : φ8

Manifold side output port single size fitting



-J6

Output port fitting
F10 : φ6
F15 : φ8
F18 : φ10

■Individual air supply and exhaust spacer

Blank : Without spacer
-PPM : Individual air supply spacer (with M5 female thread for F10)
-PP6 : Individual air supply spacer (with φ6 fitting for F15)
-PP8 : Individual air supply spacer (with φ8 fitting for F15 and F18)
-PP0 : Individual air supply spacer (with φ10 fitting for F18)
-PRM : Individual exhaust spacer (with M5 female thread for F10)
-PR6 : Individual exhaust spacer (with φ6 fitting for F15)
-PR8 : Individual exhaust spacer (with φ8 fitting for F15 and F18)
-PR0 : Individual exhaust spacer (with φ10 fitting for F18)
For details, see p. 516.

■Split

Blank : Without split
-SP : For P port [Note6]
-SR : For R port [Note6]
-SA : For both P and R ports [Note6]

Note: Valves of different sizes can not be combined together for mounting.

	Valve size	Valve units	Manifold output specification	Pilot specification	Piping block specification	Transmission block specification	Wiring connection specification	Wiring position	Station	Valve size	Valve specification	Operation method	Manual override	Valve output type	Manifold fitting specification	Individual air supply and exhaust spacer	Split	Voltage
	Manifold model								Mounting valve models									
Base piping type	F10M F15M F18M	2 ⋮ □ Note1	S	J M	Blank G	-JR -J5R[Note9] -JL -J6R[Note9] -JD -J5L[Note9] -MR -J6L[Note9] -ML -J5D[Note9] -MD -J6D[Note9]	-01 -41 -81 -02 -42 -A1 -11 -51 -A2 -21 -52 -B1 -31 -61 -32 -71	Blank -W	Blank -R	stn. 1 ⋮ stn.□ Note2	F10 F15 F18	T0 T3 T1 T4 T2 T5 BPP (for block-off plate) [Note4]	Blank[Note7] G[Note8]	Blank -R[Note5]	-A1[Note3]		Blank -PPM -PRM -PP6 -PR6 -PP8 -PR8 -PP0 -PR0	Blank -SP[Note6] -SR[Note6] -SA[Note6]	DC24V
Base piping type single size fitting	F10M F15M F18M	2 ⋮ □ Note1	S	L	Blank G	-JR -J5R[Note9] -JL -J6R[Note9] -JD -J5L[Note9] -MR -J6L[Note9] -ML -J5D[Note9] -MD -J6D[Note9]	-01 -41 -81 -02 -42 -A1 -11 -51 -A2 -21 -52 -B1 -31 -61 -32 -71	Blank -W	Blank -R	stn. 1 ⋮ stn.□ Note2	F10 F15 F18	T0 T3 T1 T4 T2 T5 BPP (for block-off plate) [Note4]	Blank[Note7] G[Note8]	Blank -R[Note5]	-A1[Note3]	-J5 -J6	Blank -PPM -PRM -PP6 -PR6 -PP8 -PR8 -PP0 -PR0	Blank -SP[Note6] -SR[Note6] -SA[Note6]	DC24V
Direct piping type				Blank	Blank G	-JR -J5R[Note9] -JL -J6R[Note9] -JD -J5L[Note9] -MR -J6L[Note9] -ML -J5D[Note9] -MD -J6D[Note9]	-01 -41 -81 -02 -42 -A1 -11 -51 -A2 -21 -52 -B1 -31 -61 -32 -71	Blank -W	Blank -R	stn. 1 ⋮ stn.□ Note2	F10 F15 F18	T0 T3 T1 T4 T2 T5 BPP (for block-off plate) [Note4]	Blank[Note7] G[Note8]	Blank -R[Note5]	-FJ -FJ5 -FJ6 -FM		Blank -PPM -PRM -PP6 -PR6 -PP8 -PR8 -PP0 -PR0	Blank -SP[Note6] -SR[Note6] -SA[Note6]	DC24V

Note: 1. For the maximum number of units, see the table for the maximum number of valve units, by serial transmission block specification, on p.552.

Notes: 2. Valve mounting location is from the left, with solenoid on top, and A and B ports side in front.
3. When selecting **J**, **M**, or **L** (base piping type) for the manifold output specifications, always enter **-A1** (with plate) for the valve output type.
4. Be aware that the block-off plate wiring is always double wiring (allocated 2 control pins at 1 stn.) regardless of the wiring connection specification.
5. The manual lever override is made to order. Contact us for the delivery. When the valve specifications are **T1** or **T2**, the manual lever override is placed on the A side only.
6. Splits can be installed only when piping blocks are mounted on both sides. In addition, only 1 piece split may be mounted in one manifold for **-SA**, or one each split for **-SP** and **-SR**, for a total of two locations. When in delivery, the designated splits are mounted between the designated station and the station to its immediate left (the next smaller stn. No.).
7. Cannot be mounted on the external pilot manifold.
8. Cannot be mounted on the internal pilot manifold.
9. F18 cannot be selected.

Additional Parts Order Code for Serial Transmission Compatible Manifold

Manifold parts

F□Z - □

Valve size
10：10mm width
15：15mm width
18：18mm width

Parts content
GS2：Gasket (gasket and exhaust valve)
SP　：Split (for P port)
SR　：Split (for R port)
SA　：Split (for both P and R ports)
Only for F10, F15 series

Block-off plate (block-off plate, 2 mounting screws and plug)

F□BPP

Valve size
10：10mm width
15：15mm width
18：18mm width

Valve base assembly※ (valve base, gasket, lead wire and plug-in connector)

F□Z□-□-F

Valve size
10：10mm width
15：15mm width

Pilot specification
Blank：Internal pilot
G　：External pilot

Piping specification
VJ　：Different size fitting valve base
VJ5：Single size fitting valve base F10: φ4, F15: φ6
VJ6：Single size fitting valve base F10: φ6, F15, φ8
VM　：Female thread valve base
VP　：Valve base plate

※: Except the F18 series

Piping block assembly※

F□Z□-□

Valve size
10：10mm width
15：15mm width

※: Except the F18 series

Piping specification
PJ　：Different size fitting piping block (for F10 and F15)
PJ5：Single size fitting piping block φ8 (not available for F18)
PJ6：Single size fitting piping block φ10 (not available for F18)
PM　：Female thread piping block (for F10 and F15)

Pilot specification
Blank：Internal pilot
G　：External pilot

End blocks※ (one set of left and right)

F□Z□-E

Valve size
10：10mm width
15：15mm width

Pilot specification
Blank：Internal pilot
G　：External pilot

※: Except the F18 series

Wiring block assembly※

F□Z□-F201-DC24

Valve size
10：10mm width
15：15mm width

Pilot specification
Blank：Internal pilot
G　：External pilot

※: Except the F18 series

Individual air supply and exhaust spacer (Spacer for plug-in type, gasket, exhaust valve and 2 mounting screws)

F□Z - □

Valve size
10：10mm width
15：15mm width
18：18mm width

Specification
PPM：Individual air supply spacer (with M5 female thread for F10)
PP6：Individual air supply spacer (with φ6 fitting for F15)
PP8：Individual air supply spacer (with φ8 fitting for F15 and F18)
PP0：Individual air supply spacer (with φ10 fitting for F18)
PRM：Individual exhaust spacer (with M5 female thread for F10)
PR6：Individual exhaust spacer (with φ6 fitting for F15)
PR8：Individual exhaust spacer (with φ8 fitting for F15 and F18)
PR0：Individual exhaust spacer (with φ10 fitting for F18)

※For details, see p. 516.

Serial transmission block (single unit)

YS2□□

Wiring position
L: For stand-alone type, left-side mounting (for F10, F15 series)※
R: For stand-alone type, right-side mounting (for F10, F15 series)※
S: For monoblock type, left-side mounting (for F18 series)
T: For monoblock type, right-side mounting (for F18 series)
※: DIN rail (length 75mm) also provided.

Transmission block specification
01：For UNI-WIRE System (16-point output)
02：For UNI-WIRE System (8-point output)
11：For Mitsubishi Electric MELSECNET/MINI-S3
21：For Omron SYSBUS Wire System
31：For Omron B7A Link Terminal (Standard)
32：For Omron B7A Link Terminal (High Speed)
41：For Koyo Electronics Industries SA Bus (16-point output)
42：For Koyo Electronics Industries SA Bus (8-point output)
51：For Sunx S-LINK (16-point output)
52：For Sunx S-LINK (8-point output)
61：For Mitsubishi Electric MELSEC I/O LINK
71：For Fuji Electric T Link Mini
81：For Keyence KZ-R
A1：For Omron CompoBus/S (16-point output)
A2：For Omron CompoBus/S (8-point output)
B1：For Mitsubishi Electric CC-Link

Muffler

KM - J□

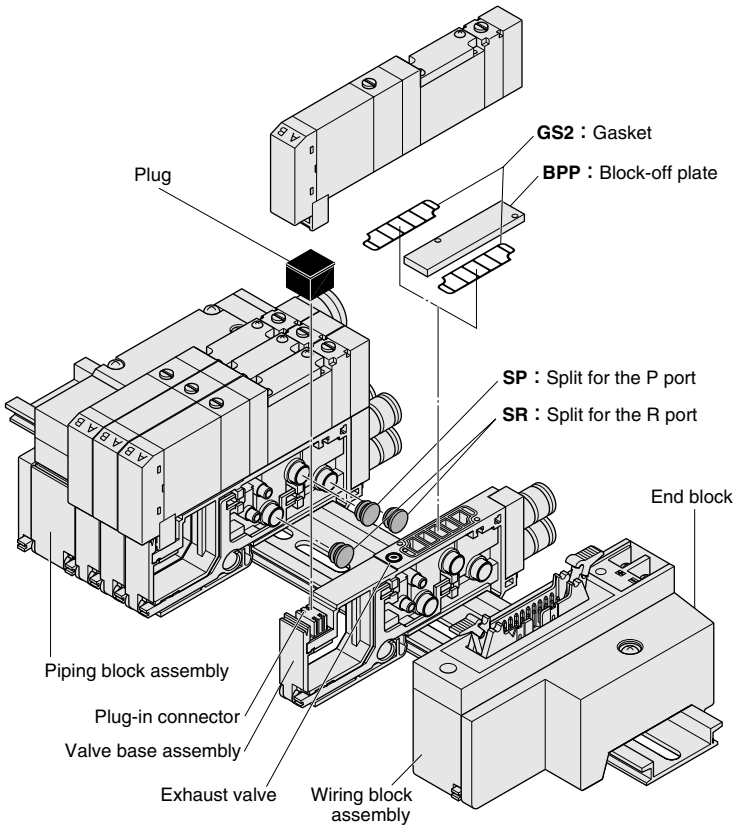
Fitting size
6：Outer diameter φ6 (for individual exhaust spacer)
8：Outer diameter φ8 (for individual exhaust spacer)
10：Outer diameter φ10 (for F10, F15 and for individual exhaust spacer)
12：Outer diameter φ12 (for F18)
(Sales unit: Set of 10 mufflers)

Cable for S-LINK

YS151-KB2
(Cable length 2000mm)

■ **Table for maximum number of valve units, by transmission block specification**

Wiring specifications	Max. control pts.	Maximum number of units: Wiring connection specification: Packed wiring (**Blank**)	Maximum number of units: Wiring connection specification: Double wiring (**-W**)
-01: For UNI-WIRE System (16-point output)	16 points	Varies depending on the mounted number of single solenoids, double solenoids, and block-off plates. The number of controlled solenoids should be designated at the maximum number of control points or less.	8 units
-02: For UNI-WIRE System (8-point output)	8 points		4 units
-11: For Mitsubishi Electric MELSECNET/MINI-S3	16 points		8 units
-21: For Omron SYSBUS Wire System	16 points		8 units
-31: For Omron B7A Link Terminal (Standard)	16 points		8 units
-32: For Omron B7A Link Terminal (High Speed)	16 points		8 units
-41: For Koyo Electronics Industries SA Bus (16-point output)	16 points		8 units
-42: For Koyo Electronics Industries SA Bus (8-point output)	8 points		4 units
-51: For Sunx S-LINK (16-point output)	16 points		8 units
-52: For Sunx S-LINK (8-point output)	8 points		4 units
-61: For Mitsubishi Electric MELSEC I/O LINK	16 points		8 units
-71: For Fuji Electric T Link Mini	16 points		8 units
-81: For Keyence KZ-R	16 points		8 units
-A1: For Omron CompoBus/S (16-point output)	16 points		8 units
-A2: For Omron CompoBus/S (8-point output)	8 points		4 units
-B1: For Mitsubishi Electric CC-Link	16 points		8 units



※The illustration shows the F10 series.

Manifold Order Code Example
（8 units of F10 Series）

F10M8SL-J5R-21-W

stn.1～5 F10T0-A1-J5 DC24V
stn.6～7 F10T2-A1-J6 DC24V
stn.8 F10BPP-J6

Note: This order code example has no relationship to the illustration above.

Precautions for Order Code

● **Order for valves only**

Use the code Valve size | Valve specification | Operation method | Manual override | Valve output type | Voltage to order.

● **Wiring connection specification**

Blank (packed wiring) : Wiring is made accordance with the mounted valve specifications.
-W (double wiring) : Wiring is always for the double solenoid, regardless of the mounted valve specifications.

Caution: Be aware that the block-off plate wiring connections are always double wiring (allocated 2 control points to 1 unit) regardless of the wiring connection specification.

Serial Transmission Compatible Manifold for OMRON Corporation CompoBus/D Order Code

■Manifold output specification

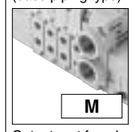
With different size fitting block (base piping type)

Output port fitting
F10 : ϕ4, ϕ6
F15 : ϕ6, ϕ8
F18 : ϕ8, ϕ10

With single size fitting block (base piping type)

Output port fitting
F10 : ϕ4 or ϕ6
F15 : ϕ6 or ϕ8
F18 : ϕ8 or ϕ10

With female thread block (base piping type)



Output port female thread
F10 : M5×0.8
F15 : Rc1/8
F18 : Rc1/4

With plate (direct piping type)

■Pilot specification

Blank
Internal pilot manifold

G
External pilot manifold

■Piping block specification

Different size fitting block
-JR : Different size fitting, right-side mounting
-JL : Different size fitting, left-side mounting
-JD : Different size fitting, both-side mounting
Fitting size (P and R ports)
F10, F15: ϕ8, ϕ10 **F18:** ϕ12 only

Female thread block
-MR : Female thread, right-side mounting
-ML : Female thread, left-side mounting
-MD Female thread, both-side mounting
Female thread size (P and R ports)
F10, F15: Rc1/4 **F18:** Rc3/8

Single size fitting block (F18 cannot be selected)
-J5R : Single size fitting, right-side mounting
-J5L : Single size fitting, left-side mounting
-J5D : Single size fitting, both-side mounting
Fitting size (P and R ports) **F10** and **F15:** ϕ8
-J6R : Single size fitting, right-side mounting
-J6L : Single size fitting, left-side mounting
-J6D : Single size fitting, both-side mounting
Fitting size (P and R ports) **F10** and **F15:** ϕ10

■Transmission block specification

-91: For Omron CompoBus/D Note
Note: The transmission block is for left-side mounting only.

F10, F15 series

●Delivered with mounted on the DIN rail.

F18 series

■Wiring connection specification

Blank
Packed wiring: Wiring is made accordance with the mounted valve specifications.

-W
Double wiring: Wiring is always for the double solenoid, regardless of the specifications of the mounted valve.

■Valve specification

T0 : 2-position, for single solenoid only
T1 : 2-position, single solenoid specification
T2 : 2-position, double solenoid specification
T3 : 3-position, all port block
T4 : 3-position, ABR connection
T5 : 3-position, PAB connection

■Operation method

Blank
Internal pilot type Note7

G
External pilot type Note8
(for positive pressure)
※ No vacuum valve can be mounted.

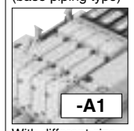
■Manual override

Manual override

Manual lever override (made to order) Note5

■Valve output type

With plate Note3 (base piping type)



With different size fitting block (direct piping type)

Output port fitting
F10 : ϕ4, ϕ6
F15 : ϕ6, ϕ8
F18 : ϕ8, ϕ10

With female thread block (direct piping type)

Output port female thread
F10 : M5×0.8
F15 : Rc1/8
F18 : Rc1/4

With output port single size fitting block (direct piping type)

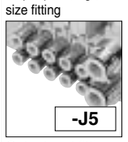
Output port fitting
F10 : ϕ4
F15 : ϕ6
F18 : ϕ8

With output port single size fitting block (direct piping type)

Output port fitting
F10 : ϕ6
F15 : ϕ8
F18 : ϕ10

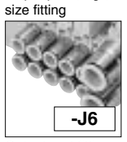
■Manifold fitting specification

Manifold side output port single size fitting



Output port fitting
F10 : ϕ4
F15 : ϕ6
F18 : ϕ8

Manifold side output port single size fitting



Output port fitting
F10 : ϕ6
F15 : ϕ8
F18 : ϕ10

■Individual air supply and exhaust spacer

Blank : Without spacer
-PPM : Individual air supply spacer (with M5 female thread for F10)
-PP6 : Individual air supply spacer (with ϕ6 fitting for F15)
-PP8 : Individual air supply spacer (with ϕ8 fitting for F15 and F18)
-PP0 : Individual air supply spacer (with ϕ10 fitting for F18)
-PRM : Individual exhaust spacer (with M5 female thread for F10)
-PR6 : Individual exhaust spacer (with ϕ6 fitting for F15)
-PR8 : Individual exhaust spacer (with ϕ8 fitting for F15 and F18)
-PR0 : Individual exhaust spacer (with ϕ10 fitting for F18)
For details, see p.516.

■Split

Blank : Without split
-SP : For P port Note6
-SR : For R port Note6
-SA : For both P and R ports Note6

■Valve size

F10M
10mm width
Effective area 5mm²

F15M
15mm width
Effective area 10mm²

F18M
18mm width
Effective area 18mm²

Note: Valves of different sizes can not be combined together for mounting.

	Valve size	Valve units	Manifold output specification	Pilot specification	Piping block specification	Transmission block specification	Wiring connection specification	Station	Valve size	Valve specification	Operation method	Manual override	Valve output type	Manifold fitting specification	Individual air supply and exhaust spacer	Split	Voltage
	Manifold model							Mounting valve models									
Base piping type	F10M F15M F18M	2 ⋮ □ Note1	S	J M	Blank G	-JR -J5R Note9 -JL -J6R Note9 -JD -J5L Note9 -MR -J6L Note9 -ML -J5D Note9 -MD -J6D Note9	-91	Blank -W	stn. 1 ⋮ stn.□ Note2	F10 F15 F18	T0 T3 T1 T4 T2 T5 BPP (for block-off plate) Note4	Blank Note7 G Note8	Blank -R Note5	-A1 Note3		Blank -PPM -PRM -PP6 -PR6 -PP8 -PR8 -PP0 -PR0	Blank -SP Note6 -SR Note6 -SA Note6	DC24V
Base piping type single size fitting	F10M F15M F18M	2 ⋮ □ Note1	S	L	Blank G	-JR -J5R Note9 -JL -J6R Note9 -JD -J5L Note9 -MR -J6L Note9 -ML -J5D Note9 -MD -J6D Note9	-91	Blank -W	stn. 1 ⋮ stn.□ Note2	F10 F15 F18	T0 T3 T1 T4 T2 T5 BPP (for block-off plate) Note4	Blank Note7 G Note8	Blank -R Note5	-A1 Note3	-J5 -J6	Blank -PPM -PRM -PP6 -PR6 -PP8 -PR8 -PP0 -PR0	Blank -SP Note6 -SR Note6 -SA Note6	DC24V
Direct piping type	F10M F15M F18M	2 ⋮ □ Note1	S	Blank	Blank G	-JR -J5R Note9 -JL -J6R Note9 -JD -J5L Note9 -MR -J6L Note9 -ML -J5D Note9 -MD -J6D Note9	-91	Blank -W	stn. 1 ⋮ stn.□ Note2	F10 F15 F18	T0 T3 T1 T4 T2 T5 BPP (for block-off plate) Note4	Blank Note7 G Note8	Blank -R Note5	-FJ -FJ5 -FJ6 -FM		Blank -PPM -PRM -PP6 -PR6 -PP8 -PR8 -PP0 -PR0	Blank -SP Note6 -SR Note6 -SA Note6	DC24V

Note: 1. For the maximum number of units, see the table for maximum number of valve units on p. 556.

Notes: 2. Valve mounting location is from the left, with solenoid on top, and A and B ports side in front.
3. When selecting **J**, **M**, or **L** (base piping type) for the manifold output specification, always enter **-A1** (with plate) for the valve output type.
4. Be aware that the block-off plate wiring is always double wiring (allocated 2 control pins to 1 unit) regardless of the wiring connection specifications.
5. The manual lever override is made to order. Contact us for the delivery. When the valve specifications are **T1** or **T2**, the manual lever override is placed on the A side only.
6. Splits can be mounted only when piping blocks are mounted on both sides. In addition, 1 piece split may be mounted in one manifold for **-SA**, or one each split for **-SP** and **-SR**, for a total of two locations. When in delivery, the designated splits are mounted between the designated station and the station to its immediate left (the next smaller stn. No.).
7. Cannot be mounted on the external pilot manifold.
8. Cannot be mounted on the internal pilot manifold.
9. F18 cannot be selected.

Additional Parts Order Code for Serial Transmission Compatible Manifold

Manifold parts

F□Z - □

Valve size
10：10mm width
15：15mm width
18：18mm width

Parts content
GS2：Gasket (gasket and exhaust valve)
SP ：Split (for P port)
SR ：Split (for R port)
SA ：Split (for both P and R ports)

Block-off plate (block-off Plate, 2 mounting screws and plug)

F□BPP

Valve size
10：10mm width
15：15mm width
18：18mm width

Valve base assembly (valve base, gasket, lead wire and plug-in connector)

F□Z□ - □ - F

Valve size
10：10mm width
15：15mm width
18：18mm width

Pilot specification
Blank：Internal pilot
G ：External pilot

Piping specification
VJ ：Different size fitting valve base
VJ5：Single size fitting valve base F10: φ4, F15: φ6, F18: φ8
VJ6：Single size fitting valve base F10: φ6, F15: φ8, F18: φ10
VM：Female thread valve base
VP ：Valve base plate

Piping block assembly

F□Z□ - □

Valve size
10：10mm width
15：15mm width
18：18mm width

Piping specification
PJ ：Different size fitting piping block (for F10, F15)
PJ5：Single size fitting piping block φ8 (Not available for F18)
PJ6：Single size fitting piping block φ10 (Not available for F18)
PM：Female thread piping block (for F10, F15)

Pilot specification
Blank: Internal pilot
G ：External pilot

End blocks (one set of left and right)

F□Z□ - E

Valve size
10：10mm width
15：15mm width
18：18mm width

Pilot specification
Blank: Internal pilot
G ：External pilot

Wiring block assembly

F□Z□ - F201 - DC24

Valve size
10：10mm width
15：15mm width
18：18mm width

Pilot specification
Blank: Internal pilot
G ：External pilot

Individual air supply and exhaust spacer

(Spacer for plug-in type, gasket, exhaust valve and 2 mounting screws)

F□Z - □

Valve size
10：10mm width
15：15mm width
18：18mm width

Specification
PPM：Individual air supply spacer (with M5 female thread for F10)
PP6：Individual air supply spacer (with φ6 fitting for F15)
PP8：Individual air supply spacer (with φ8 fitting for F15 and F18)
PP0：Individual air supply spacer (with φ10 fitting for F18)
PRM：Individual exhaust spacer (with M5 female thread for F10)
PR6：Individual exhaust spacer (with φ6 fitting for F15)
PR8：Individual exhaust spacer (with φ8 fitting for F15 and F18)
PR0：Individual exhaust spacer (with φ10 fitting for F18)

※For details, see p. 516.

Serial transmission block (single unit)

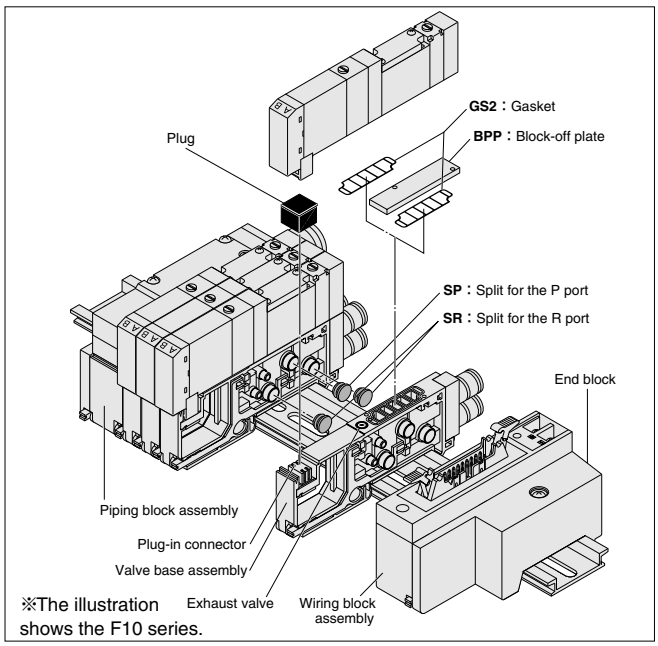
YS391

Transmission block specification
91：For Omron CompoBus/D

Muffler

KM - J□

Fitting size
6 ：Outer diameter φ6 (for individual exhaust spacer)
8 ：Outer diameter φ8 (for individual exhaust spacer)
10：Outer diameter φ10 (for F10, F15 and for individual exhaust spacer)
12：Outer diameter φ12 (for F18)
(Sales unit: Set of 10 mufflers)



※The illustration shows the F10 series.

■ Table for maximum number of valve units

Wiring specification	Max. control pts.	Maximum number of units: Wiring connection specification: Packed wiring (**Blank**)	Maximum number of units: Wiring connection specification: Double wiring (**-W**)
-91: For Omron CompoBus/D	16 points	Varies depending on the mounted number of single solenoids, double solenoids, and block-off plates. The number of controlled solenoids should be designated at the maximum number of control points or less.	8 units

Manifold Order Code Example

(8 units of F10 Series)

F10M8SL-J5R-91-W

stn.1～5 F10T0-A1-J5 DC24V
stn.6～7 F10T2-A1-J6 DC24V
stn.8 F10BPP-J6

Note: This order code example has no relation to the illustration at upper right.

Precautions for Order Code

● **Order for valves only**

Use the code | Valve size | Valve specification | Operation method | Manual override | Valve output type | Voltage | to order.

● **Wiring connection specification**

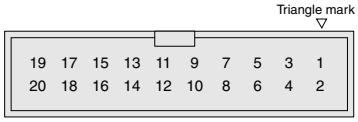
Blank (packed wiring) : Wiring is made accordance with the mounted valve specifications.
-W (double wiring) : Wiring is always for the double solenoid, regardless of the mounted valve specifications.

Caution: Be aware that the block-off plate wiring is always double wiring (allocated 2 control points to 1 unit) regardless of the wiring connection specification.

PC Board Manifold, Pin Locations by Wiring Specification (TOP VIEW)

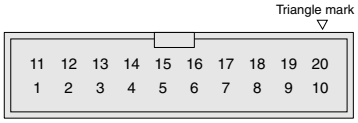
Flat cable connector (20-pin)

●**-F200** (Maximum control point 16 points)



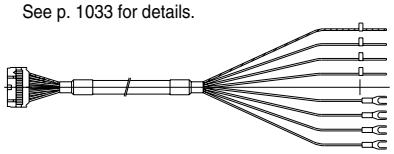
1～16 : Control pin
17, 18 : Minus pin (Short-circuited inside)
19, 20 : Plus pin (Short-circuited inside)

●**-F201** (Maximum control point 16 points)



1～8 : Control pin
11～18 : Control pin
9, 19 : Minus pin (Short-circuited inside)
10, 20 : Plus pin (Short-circuited inside)
Note : Connector pin No. are allocated for convenience. Use the ▽ mark as the standard.
Remark : The **-F201** corresponds Koganei's pin locations for the PC wiring system (wire-saving unit). For details, see the PC wiring system on p. 981.

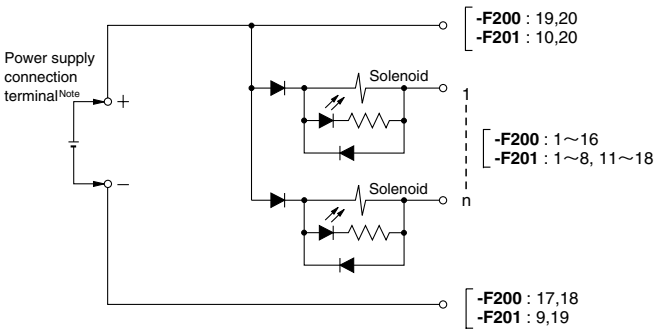
● Various dedicated cable assemblies are available. See p. 1033 for details.



Remark: Socket and strain relief for flat cable included at time of delivery.
※ For the relationship between the pin No. (terminal No.) and the corresponding solenoid, see p. 559.

Detailed Diagram of Wiring System

●Plus common



Note: For connecting a power line to the PC board manifold power connection terminal, see the "PC Board Manifold" precautions on p.513.

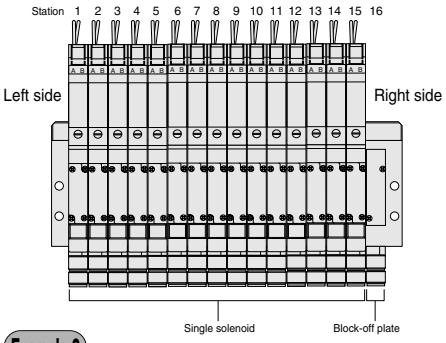
Pin No. and Corresponding Solenoid (For PC Board Manifold A and F Type)

The examples below show the relationship between the PC board manifold pin No. and the corresponding solenoid. The mounting example shows the maximum number of control points in use.

Flat cable connector (20-pin)

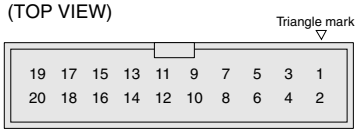
●Wiring specification **-F200** (Maximum control point 16 points)

Example 1 **F10M16APJ-F200-S stn.1～15 F10T1-A1-PP DC24V**
stn.16 F10BPC



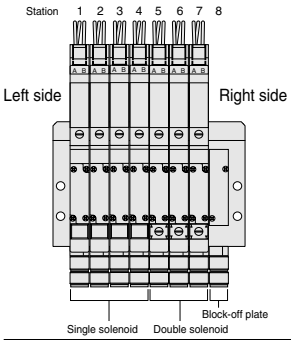
Number of units : 16 units
Wiring specification : **-F200**
Wiring connection specification : **-S** (single wiring)

(TOP VIEW)



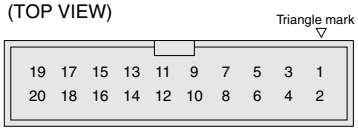
Pin No.	19	17	15	13	11	9	7	5	3	1
Valve No.	+	−	15A	13A	11A	9A	7A	5A	3A	1A
Pin No.	20	18	16	14	12	10	8	6	4	2
Valve No.	+	−	16A	14A	12A	10A	8A	6A	4A	2A

Example 2 **F10M8APJ-F200-W stn.1～4 F10T1-A1-PP DC24V**
stn.5～7 F10T2-A1-PP DC24V
stn.8 F10BPC



Number of units : 8 units
Wiring specification : **-F200**
Wiring connection specification : **-W** (double wiring)

(TOP VIEW)

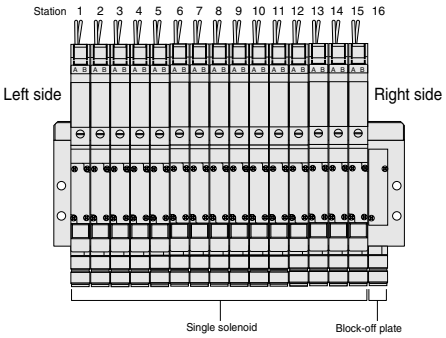


Pin No.	19	17	15	13	11	9	7	5	3	1
Valve No.	+	−	8A	7A	6A	5A	4A	3A	2A	1A
Pin No.	20	18	16	14	12	10	8	6	4	2
Valve No.	+	−	8B	7B	6B	5B	4B	3B	2B	1B

Flat cable connector (20-pin)

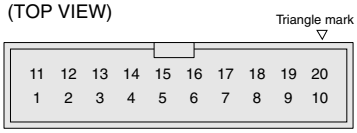
●Wiring specification **-F201** (Maximum control point 16 points)

Example 1 **F10M16APJ-F201-S stn.1～15 F10T1-A1-PP DC24V**
stn.16 F10BPC



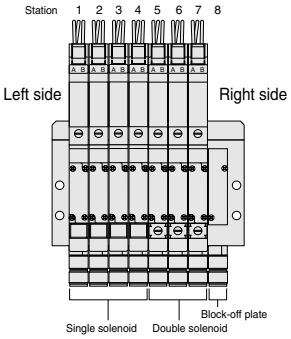
Number of units : 16 units
Wiring specification : **-F201**
Wiring connection specification : **-S** (single wiring)

(TOP VIEW)



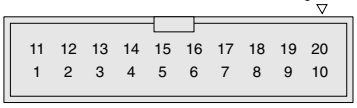
Pin No.	11	12	13	14	15	16	17	18	19	20
Valve No.	9A	10A	11A	12A	13A	14A	15A	16A	−	+
Pin No.	1	2	3	4	5	6	7	8	9	10
Valve No.	1A	2A	3A	4A	5A	6A	7A	8A	−	+

Example 2 **F10M8APJ-F201-W stn.1～4 F10T1-A1-PP DC24V**
stn.5～7 F10T2-A1-PP DC24V
stn.8 F10BPC



Number of units : 8 units
Wiring specification : **-F201**
Wiring connection specification : **-W** (double wiring)

(TOP VIEW)



Pin No.	11	12	13	14	15	16	17	18	19	20
Valve No.	5A	5B	6A	6B	7A	7B	8A	8B	−	+
Pin No.	1	2	3	4	5	6	7	8	9	10
Valve No.	1A	1B	2A	2B	3A	3B	4A	4B	−	+

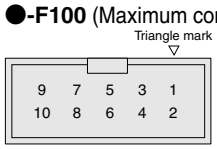
Caution: Connector pin No. are allocated for convenience. Use the ▽ mark as a reference.

Notes: 1. The valve No.1A, 1B, 2A, 2B··· numbers show the stn. numbers in order, while the letters A and B show the A and B sides of the solenoid.
2. The stn. No. are counted from the left, 1, 2···, with the solenoid on top and the valve in front.

Split Manifold Plug-In Type, Pin (Terminal) Locations by Wiring Specification (TOP VIEW)

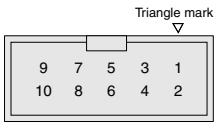
Flat cable connector (10-pin)

●**-F100** (Maximum control point 8 points)



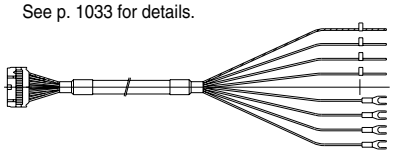
1～8 : Control pin
9, 10 : Common pin (Short-circuited within the wiring block)

●**-F101** (Maximum control point 8 points)



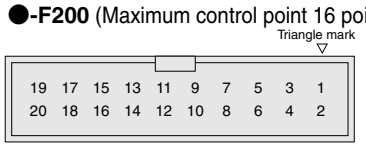
1～8 : Control pin
9 : Minus pin
10 : Plus pin

● Various dedicated cable assemblies are available.
See p. 1033 for details.



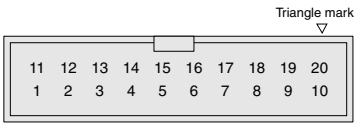
Flat cable connector (20-pin)

●**-F200** (Maximum control point 16 points)



1～16 : Control pin
17, 18 : Minus pin (Short-circuited within the wiring block)
19, 20 : Plus pin (Short-circuited within the wiring block)

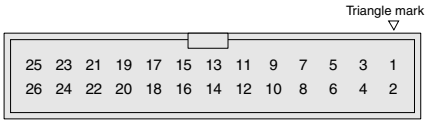
●**-F201** (Maximum control point 16 points)



1～8 : Control pin
11～18 : Control pin
9, 19 : Minus pin (Short-circuited within the wiring block)
10, 20 : Plus pin (Short-circuited within the wiring block)
Note : Connector pin No. are allocated for convenience.
Use the ▽ mark as the standard.
Remark : The **-F201** corresponds Koganei's pin locations for the PC wiring system (wire-saving unit). For details, see the PC wiring system on p. 981.

Flat cable connector (26-pin)

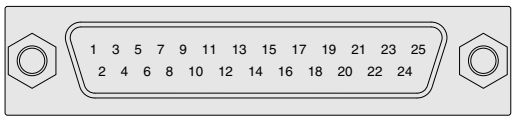
●**-F260** (Maximum control point 20 points)



1～20 : Control pin
23, 24 : Minus pin (Short-circuited within the wiring block)
25, 26 : Plus pin (Short-circuited within the wiring block)

D sub connector (25-pin)

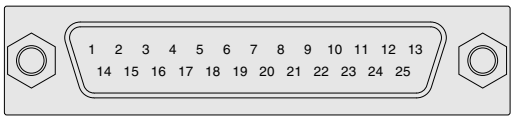
●**-D250** (Maximum control point 16 points)



1～16 : Control pin
20, 21, 22 : Minus pin (Short-circuited within the wiring block)
23, 24, 25 : Plus pin (Short-circuited within the wiring block)

Caution: The above pin No. are conveniently allocated based on the solenoid valve wiring sequence.
Differs from the pin locations and pin No. (marked) regulated (JIS-X5101) for the data circuit end (DCE) device.

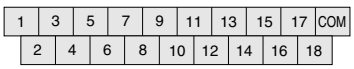
●**-D251** Pin locations based on JIS (Maximum control point 20 points)



1～10, 14～23 : Control pin
12, 13 : Minus pin (Short-circuited within the wiring block)
24, 25 : Plus pin (Short-circuited within the wiring block)

Terminal block type (19 terminals, M3 thread)

●**-T200** (Maximum control point 18 points)



1～18 : Control terminal
COM : Common terminal

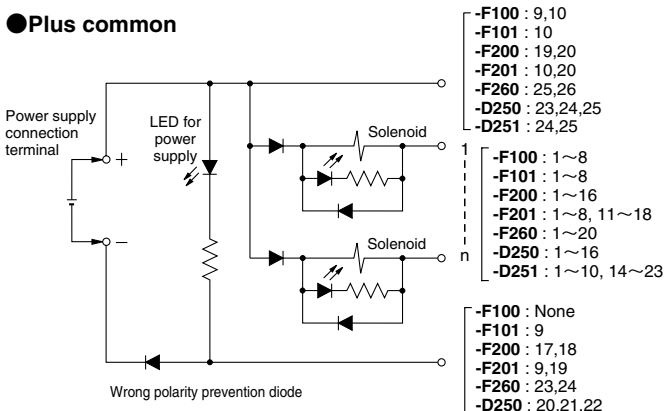
Caution: Set the tightening torque for terminal screw (M3) to 49.0N･cm{5.0kgf･cm} or less.

※ For the relationship between the pin No.(terminal No.) and the corresponding solenoid, see p.561～565.

Detailed Diagram of Wiring System

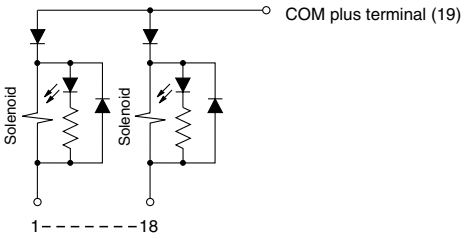
Flat cable connector and D sub connector (DC12, 24V)

●**Plus common**

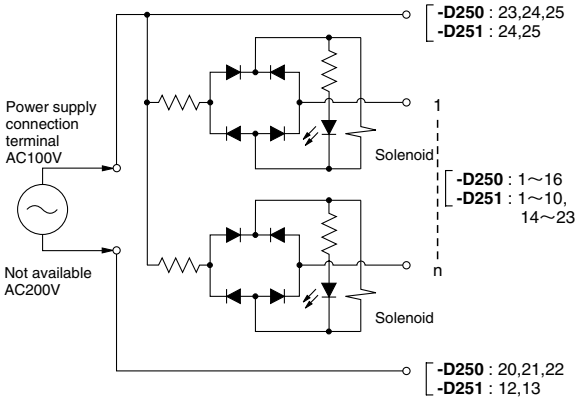


Terminal block (For DC12, 24V specification)

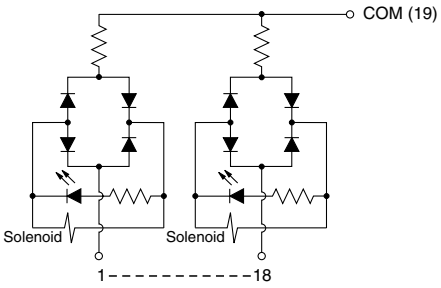
●**Plus common**



D sub connector (For AC100V specification)



Terminal block (For AC100V specification)



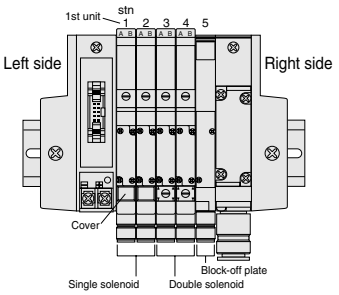
Pin No. (Terminal No.) and Corresponding Solenoid (For Split Manifold Plug-in Type)

The examples below show the relationship between the split manifold pin No. and the corresponding solenoid.
The mounting example shows the maximum number of control points in use.

Flat cable connector (10-pin)

●Wiring specification **-F100** (Maximum control point 8 points)

Example 1 **F10M5PJ-JR-F100 DC24V stn.1～2 F10T1-A1 DC24V**
stn.3～4 F10T2-A1 DC24V
stn.5 F10BPP

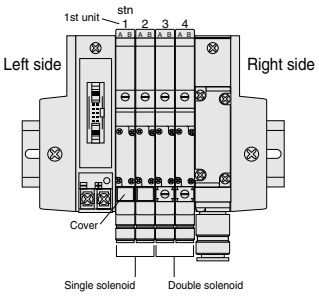


Number of units : 5 units
Wiring specification : **-F100**
Wiring connection
specification : **Blank** (packed wiring)

(TOP VIEW) Triangle mark ▽

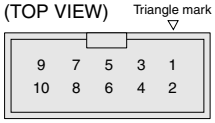
Pin No.	9	7	5	3	1
Valve No.	+	5A	4A	3A	1A
Pin No.	10	8	6	4	2
Valve No.	+	5B	4B	3B	2A

Example 2 **F10M4PJ-JR-F100-W DC24V stn.1～2 F10T1-A1 DC24V**
stn.3～4 F10T2-A1 DC24V



Number of units : 4 units
Wiring specification : **-F100**
Wiring connection
specification : **-W** (double wiring)

(TOP VIEW) Triangle mark ▽

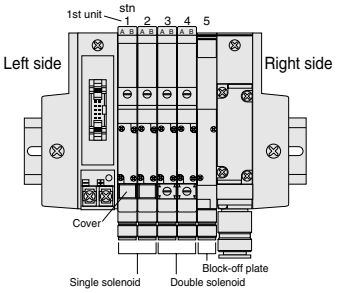


Pin No.	9	7	5	3	1
Valve No.	+	4A	3A	2A	1A
Pin No.	10	8	6	4	2
Valve No.	+	4B	3B	2B	1B

Flat cable connector (10-pin)

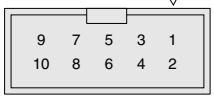
●Wiring specification **-F101** (Maximum control point 8 points)

Example 1 **F10M5PJ-JR-F101 DC24V stn.1～2 F10T1-A1 DC24V**
stn.3～4 F10T2-A1 DC24V
stn.5 F10BPP



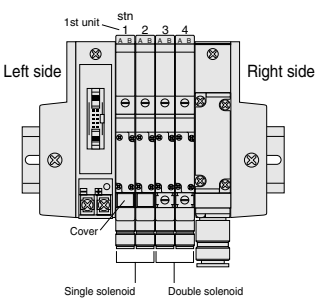
Number of units : 5 units
Wiring specification : **-F101**
Wiring connection
specification : **Blank** (packed wiring)

(TOP VIEW) Triangle mark ▽



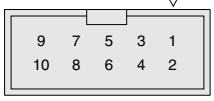
Pin No.	9	7	5	3	1
Valve No.	−	5A	4A	3A	1A
Pin No.	10	8	6	4	2
Valve No.	+	5B	4B	3B	2A

Example 2 **F10M4PJ-JR-F101-W DC24V stn.1～2 F10T1-A1 DC24V**
stn.3～4 F10T2-A1 DC24V



Number of units : 4 units
Wiring specification : **-F101**
Wiring connection
specification : **-W** (double wiring)

(TOP VIEW) Triangle mark ▽



Pin No.	9	7	5	3	1
Valve No.	−	4A	3A	2A	1A
Pin No.	10	8	6	4	2
Valve No.	+	4B	3B	2B	1B

Notes: 1. The valve No.1A, 1B, 2A, 2B··· numbers show the stn. numbers in order, while the letters A and B show the A and B sides of the solenoid.
2. The stn. No. are counted from the left, 1, 2···, with the solenoid on top and the valve in front.
3. If selecting wiring connection specification **-W**, all wiring becomes double wiring, regardless of valve specifications.
4. Be aware that the block-off plate is always double wiring (allocated 2 control pins to 1 unit), regardless of the wiring connection specifications.
5. Connector pin No. are allocated for convenience. Use the ▽mark as the standard.

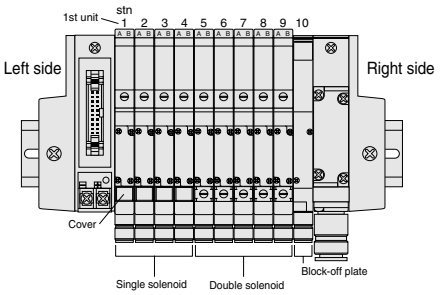
Pin No. (Terminal No.) and Corresponding Solenoid (For Split Manifold Plug-in Type)

The examples below show the relationship between the PC board manifold pin No. and the corresponding solenoid.
The mounting example shows the maximum number of control points in use.

Flat cable connector (20-pin)

●Wiring specification **-F200** (Maximum control point 16 points)

Example 1 **F10M10PJ-JR-F200 DC24V stn.1～4 F10T1-A1 DC24V**
stn.5～9 F10T2-A1 DC24V
stn.10 F10BPP



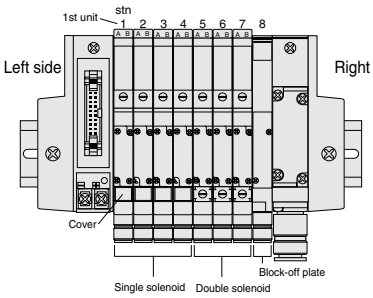
Number of units : 10 units
Wiring specification : **-F200**
Wiring connection specification : **Blank** (packed wiring)

(TOP VIEW) Triangle mark ▽

19	17	15	13	11	9	7	5	3	1
20	18	16	14	12	10	8	6	4	2

Pin No.	19	17	15	13	11	9	7	5	3	1
Valve No.	+	−	10A	9A	8A	7A	6A	5A	3A	1A
Pin No.	20	18	16	14	12	10	8	6	4	2
Valve No.	+	−	10B	9B	8B	7B	6B	5B	4A	2A

Example 2 **F10M8PJ-JR-F200-W DC24V stn.1～4 F10T1-A1 DC24V**
stn.5～7 F10T2-A1 DC24V
stn.8 F10BPP



Number of units : 8 units
Wiring specification : **-F200**
Wiring connection specification : **-W** (double wiring)

(TOP VIEW) Triangle mark ▽

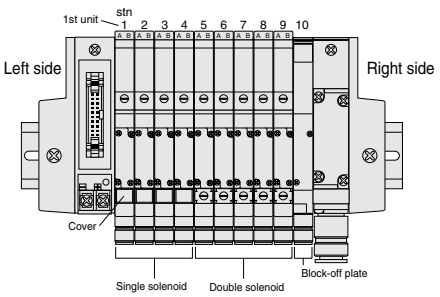
19	17	15	13	11	9	7	5	3	1
20	18	16	14	12	10	8	6	4	2

Pin No.	19	17	15	13	11	9	7	5	3	1
Valve No.	+	−	8A	7A	6A	5A	4A	3A	2A	1A
Pin No.	20	18	16	14	12	10	8	6	4	2
Valve No.	+	−	8B	7B	6B	5B	4B	3B	2B	1B

Flat cable connector（20-pin）

●Wiring specification **-F201** (Maximum control point 16 points)

Example 1 **F10M10PJ-JR-F201 DC24V stn.1～4 F10T1-A1 DC24V**
stn.5～9 F10T2-A1 DC24V
stn.10 F10BPP



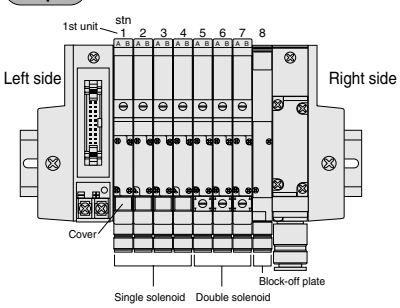
Number of units : 10 units
Wiring specification : **-F201**
Wiring connection specification : **Blank** (packed wiring)

(TOP VIEW) Triangle mark ▽

11	12	13	14	15	16	17	18	19	20
1	2	3	4	5	6	7	8	9	10

Pin No.	11	12	13	14	15	16	17	18	19	20
Valve No.	7A	7B	8A	8B	9A	9B	10A	10B	−	+
Pin No.	1	2	3	4	5	6	7	8	9	10
Valve No.	1A	2A	3A	4A	5A	5B	6A	6B	−	+

Example 2 **F10M8PJ-JR-F201-W DC24V stn.1～4 F10T1-A1 DC24V**
stn.5～7 F10T2-A1 DC24V
stn.8 F10BPP



Number of units : 8 units
Wiring specification : **-F201**
Wiring connection specification : **-W** (double wiring)

(TOP VIEW) Triangle mark ▽

11	12	13	14	15	16	17	18	19	20
1	2	3	4	5	6	7	8	9	10

Pin No.	11	12	13	14	15	16	17	18	19	20
Valve No.	5A	5B	6A	6B	7A	7B	8A	8B	−	+
Pin No.	1	2	3	4	5	6	7	8	9	10
Valve No.	1A	1B	2A	2B	3A	3B	4A	4B	−	+

Note: Connector pin No. are allocated for convenience.
Use the ▽ mark as the standard.

Notes: 1. The valve No.1A, 1B, 2A, 2B··· numbers show the stn. numbers in order, while the letters A and B show the A and B sides of the solenoid.
2. The stn. No. are counted from the left, 1, 2···, with the solenoid on top and the valve in front.
3. If selecting wiring connection specification **-W**, all wiring becomes double wiring, regardless of valve specifications.
4. Be aware that the block-off plate is always double wiring (allocated 2 control pins to 1 unit), regardless of the wiring connection specifications.
5. Connector pin No. are allocated for convenience. Use the ▽ mark as the standard.

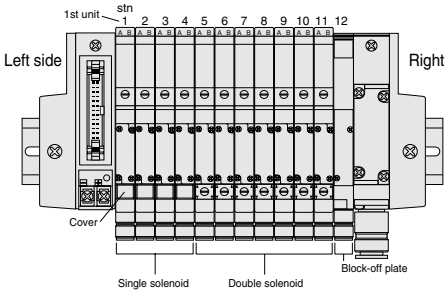
Pin No. (Terminal No.) and Corresponding Solenoid (For Split Manifold Plug-in Type)

The examples below show the relationship between the split manifold pin No. and the corresponding solenoid.
The mounting example shows the maximum number of control points in use.

Flat cable connector (26-pin)

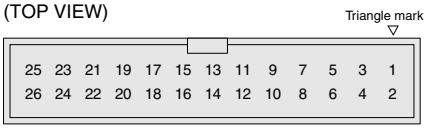
●Wiring specification **-F260** (Maximum control point 20 points)

Example 1 **F10M12PJ-JR-F260 DC24V stn.1～4 F10T1-A1 DC24V**
stn.5～11 F10T2-A1 DC24V
stn.12 F10BPP



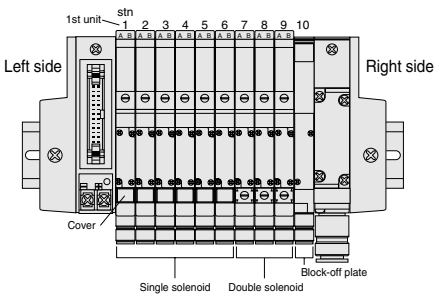
Number of units : 12 units
Wiring specification : **-F260**
Wiring connection specification : **Blank** (packed wiring)

(TOP VIEW)



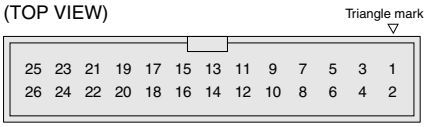
Pin No.	25	23	21	19	17	15	13	11	9	7	5	3	1
Valve No.	+	−		12A	11A	10A	9A	8A	7A	6A	5A	3A	1A
Pin No.	26	24	22	20	18	16	14	12	10	8	6	4	2
Valve No.	+	−		12B	11B	10B	9B	8B	7B	6B	5B	4A	2A

Example 2 **F10M10PJ-JR-F260-W DC24V stn.1～6 F10T1-A1 DC24V**
stn.7～9 F10T2-A1 DC24V
stn.10 F10BPP



Number of units : 10 units
Wiring specification : **-F260**
Wiring connection specification : **-W** (double wiring)

(TOP VIEW)



Pin No.	25	23	21	19	17	15	13	11	9	7	5	3	1
Valve No.	+	−		10A	9A	8A	7A	6A	5A	4A	3A	2A	1A
Pin No.	26	24	22	20	18	16	14	12	10	8	6	4	2
Valve No.	+	−		10B	9B	8B	7B	6B	5B	4B	3B	2B	1B

Notes: 1. The valve No.1A, 1B, 2A, 2B··· numbers show the stn. numbers in order, while the letters A and B show the A and B sides of the solenoid.
2. The stn. No. are counted from the left, 1, 2···, with the solenoid on top and the valve in front.
3. If selecting wiring connection specification **-W**, all wiring becomes double wiring, regardless of valve specifications.
4. Be aware that the block-off plate is always double wiring (allocated 2 control pins to 1 unit), regardless of the wiring connection specifications.
5. Connector pin No. are allocated for convenience. Use the ▽ mark as the standard.

Pin No. (Terminal No.) and Corresponding Solenoid (For Split Manifold Plug-in Type)

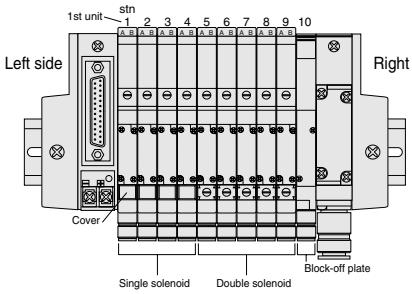
The examples below show the relationship between the split manifold pin No. and the corresponding solenoid.
The mounting example shows the maximum number of control points in use.

D sub connector (25-pin)

●Wiring specification **-D250** (Maximum control point 16 points)

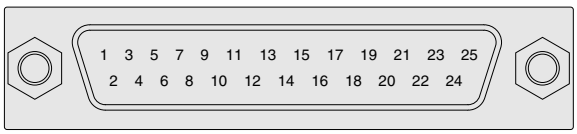
Caution: The connector pin No. are conveniently allocated based on the solenoid valve wiring sequence. Differs from the pin locations and pin No. (printed) regulated (JIS-X5101) for the data circuit end (DCE) device.

Example 1 **F10M10PJ-JR-D250 DC24V stn.1～4 F10T1-A1 DC24V**
stn.5～9 F10T2-A1 DC24V
stn.10 F10BPP


stn
1st unit
1 2 3 4 5 6 7 8 9 10
A B A B A B A B A B A B A B A B A B A B
Left side
Right side
Cover
Single solenoid
Double solenoid
Block-off plate

Number of units : 10 units
Wiring specification : **-D250**
Wiring connection specification : **Blank** (packed wiring)

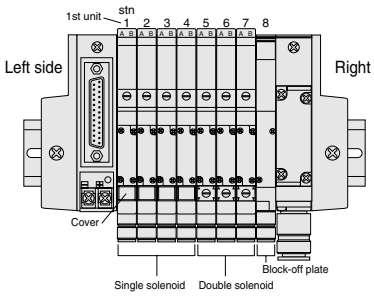
(TOP VIEW)



Pin No.	1	3	5	7	9	11	13	15	17	19	21	23	25
Valve No.	1A	3A	5A	6A	7A	8A	9A	10A			−	+	+

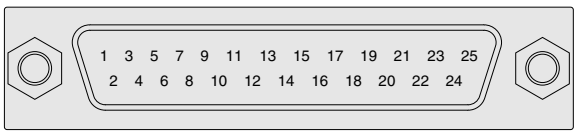
Pin No.	2	4	6	8	10	12	14	16	18	20	22	24
Valve No.	2A	4A	5B	6B	7B	8B	9B	10B		−	−	+

Example 2 **F10M8PJ-JR-D250-W DC24V stn.1～4 F10T1-A1 DC24V**
stn.5～7 F10T2-A1 DC24V
stn.8 F10BPP



Number of units : 8 units
Wiring specification : **-D250**
Wiring connection specification : **-W** (double wiring)

(TOP VIEW)



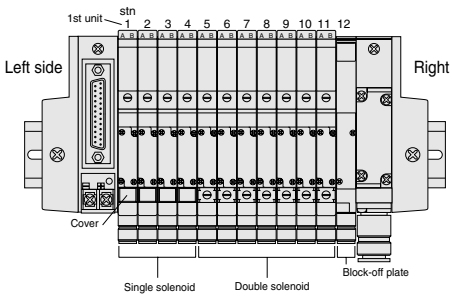
Pin No.	1	3	5	7	9	11	13	15	17	19	21	23	25
Valve No.	1A	2A	3A	4A	5A	6A	7A	8A			−	+	+

Pin No.	2	4	6	8	10	12	14	16	18	20	22	24
Valve No.	1B	2B	3B	4B	5B	6B	7B	8B		−	−	+

D sub connector (25-pin)

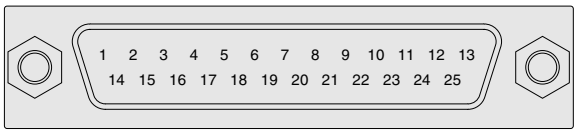
●Wiring specification **-D251** pin locations based on JIS (Maximum control point 20 points)

Example 1 **F10M12PJ-JR-D251 DC24V stn.1～4 F10T1-A1 DC24V**
stn.5～11 F10T2-A1 DC24V
stn.12 F10BPP


stn
1st unit
1 2 3 4 5 6 7 8 9 10 11 12
A B A B A B A B A B A B A B A B A B A B A B A B
Left side
Right side
Cover
Single solenoid
Double solenoid
Block-off plate

Number of units : 12 units
Wiring specification : **-D251**
Wiring connection specification : **Blank** (packed wiring)

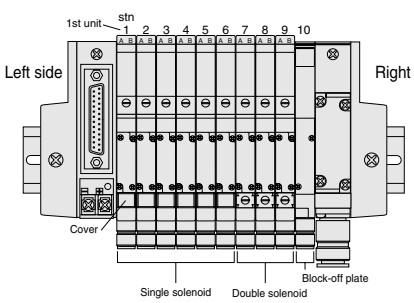
(TOP VIEW)



Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13
Valve No.	1A	2A	3A	4A	5A	5B	6A	6B	7A	7B		−	−

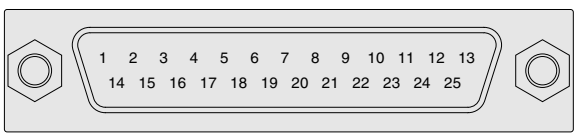
Pin No.	14	15	16	17	18	19	20	21	22	23	24	25
Valve No.	8A	8B	9A	9B	10A	10B	11A	11B	12A	12B	+	+

Example 2 **F10M10PJ-JR-D251-W DC24V stn.1～6 F10T1-A1 DC24V**
stn.7～9 F10T2-A1 DC24V
stn.10 F10BPP


stn
1st unit
1 2 3 4 5 6 7 8 9 10
A B A B A B A B A B A B A B A B A B A B
Left side
Right side
Cover
Single solenoid
Double solenoid
Block-off plate

Number of units : 10 units
Wiring specification : **-D251**
Wiring connection specification : **-W** (double wiring)

(TOP VIEW)



Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13
Valve No.	1A	1B	2A	2B	3A	3B	4A	4B	5A	5B		−	−

Pin No.	14	15	16	17	18	19	20	21	22	23	24	25
Valve No.	6A	6B	7A	7B	8A	8B	9A	9B	10A	10B	+	+

Notes: 1. The valve No.1A, 1B, 2A, 2B··· numbers show the stn. numbers in order, while the letters A and B show the A and B sides of the solenoid.
2. The stn. No. are counted from the left, 1, 2···, with the solenoid on top and the valve in front.
3. If selecting wiring connection specification **-W**, all wiring becomes double wiring, regardless of valve specifications.
4. Be aware that the block-off plate is always double wiring (allocated 2 control pins to 1 unit), regardless of the wiring connection specifications.

Pin No. (Terminal No.) and Corresponding Solenoid (For Split Manifold Plug-in Type)

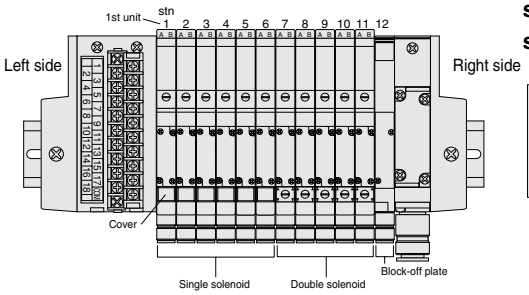
The examples below show the relationship between the split manifold terminal No. and the corresponding solenoid. The mounting example shows the maximum number of control points in use.

Terminal block type (19 terminals, M3 thread)

●Wiring specification **-T200** (Maximum control point18 points)

Example 1

F10M12PJ-JR-T200 DC24V stn.1～6 F10T1-A1 DC24V
stn.7～11 F10T2-A1 DC24V
stn.12 F10BPP



Number of units : 12 units
Wiring specification : **-T200**
Wiring connection specification : **Blank** (packed wiring)

(TOP VIEW)

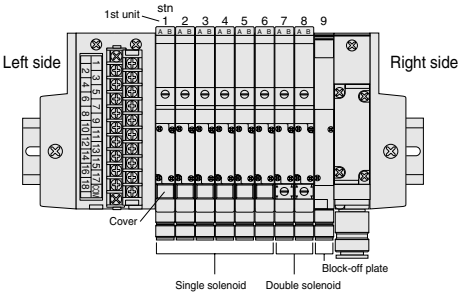
1	3	5	7	9	11	13	15	17	COM
2	4	6	8	10	12	14	16	18	

Terminal No.	1	3	5	7	9	11	13	15	17	COM
Valve No.	1A	3A	5A	7A	8A	9A	10A	11A	12A	+

Terminal No.	2	4	6	8	10	12	14	16	18
Valve No.	2A	4A	6A	7B	8B	9B	10B	11B	12B

Example 2

F10M9PJ-JR-T200-W DC24V stn.1～6 F10T1-A1 DC24V
stn.7～8 F10T2-A1 DC24V
stn.9 F10BPP



Number of units : 9 units
Wiring specification : **-T200**
Wiring connection specification : **-W** (double wiring)

(TOP VIEW)

1	3	5	7	9	11	13	15	17	COM
2	4	6	8	10	12	14	16	18	

Terminal No.	1	3	5	7	9	11	13	15	17	COM
Valve No.	1A	2A	3A	4A	5A	6A	7A	8A	9A	+

Terminal No.	2	4	6	8	10	12	14	16	18
Valve No.	1B	2B	3B	4B	5B	6B	7B	8B	9B

Notes: 1. The valve No.1A, 1B, 2A, 2B··· numbers show the stn. numbers in order, while the letters A and B show the A and B sides of the solenoid.
2. The stn. No. are counted from the left, 1, 2···, with the solenoid on top and the valve in front.
3. If selecting wiring connection specification **-W**, all wiring becomes double wiring, regardless of valve specifications.
4. Be aware that the block-off plate is always double wiring (allocated 2 control terminals to 1 unit), regardless of the wiring connection specifications.

SOLENOID VALVES F10 SERIES

INDEX

Specifications ——— 568

Dimensions of Single Valve Unit ——— 572

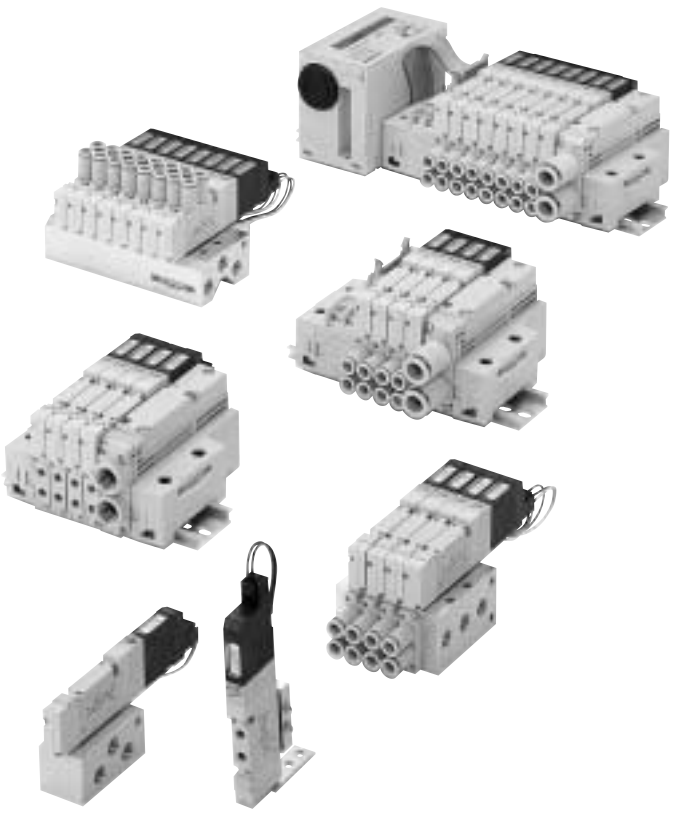
Dimensions of Monoblock Manifold ——— 575

Dimensions of PC Board Manifold ——— 577

Dimensions of Split Manifold Non-Plug-in Type —— 578

Dimensions of Split Manifold Plug-in Type —— 579

Dimensions of Serial Transmission Compatible Manifold ——— 582



F10 SERIES SPECIFICATIONS

Specifications

Basic Models and Functions

Item \ Basic model	F10T0	F10T1 F10T2	F10T3 F10T4 F10T5
Number of positions	2 positions		3 positions
Number of ports	5		
Valve function	For single solenoid only	For both single and double solenoid	All port block, ABR connection, PAB connection

Remark: For the optional specifications and order code, see p.532~556.

Specifications

Item \ Basic model		F10T0 F10T1 F10T2	F10T3 F10T4 F10T5	F10T0G F10T1G F10T2G	F10T3G F10T4G F10T5G	F10T0V F10T1V F10T2V	F10T3V
Media		Air					
Operation method		Internal pilot type		External pilot type (for positive pressure)		External pilot type (for vacuum)	
Effective area〔CV〕Note1	mm²	5〔0.28〕	4.5〔0.25〕	5〔0.28〕	4.5〔0.25〕	5〔0.28〕	4.5〔0.25〕
Port size Note2		M5× 0.8, fittings for φ4 and φ6, Rc1/8					
Lubrication		Not required					
Operating pressure range	Main valve	0.2～0.7MPa {2～7.1kgf/cm²}		0～0.7MPa {0～7.1kgf/cm²} Note3		0.15MPa～−100kPa {1.5kgf/cm²～−750.1mmHg}	
	External pilot	——		0.2～0.7MPa {2～7.1kgf/cm²} Note3		0.2～0.7MPa {2～7.1kgf/cm²}	
Proof pressure	MPa {kgf/cm²}	1.05 {10.7}					
Response time Note4 ON/OFF time	DC12V, DC24V ms	Max. 15／20	Max. 15／25	Max. 15／20	Max. 15／25	Max. 15／20	Max. 15／25
	AC100V	Max. 15／20	Max. 15／25	Max. 15／20	Max. 15／25	Max. 15／20	Max. 15／25
Maximum operating frequency	Hz	5					
Minimum time to energize for self holding Note5	ms	50	——	50	——	50	——
Operating temperature range (atmosphere and media)	℃	5～50					
Shock resistance	m/s² {G}	1373 {140.0} (Axial direction 294.2 {30.0})	294.2 {30.0}	1373 {140.0} (Axial direction 294.2 {30.0})	294.2 {30.0}	1373 {140.0} (Axial direction 294.2 {30.0})	294.2 {30.0}
Mounting direction		Any					

Notes: 1. For details, see the effective area on p.569.
2. For details, see the port size on p.569.
3. When the main valve pressure is 0.2~0.7MPa, set the external pilot pressure to the main valve pressure or higher, and 0.7MPa or less.
4. Values when air pressure is 0.5MPa. For switching phase timing, add a maximum of 5 ms to the response time of AC specification. The values for 2-position valves are when used as a single solenoid, and the values for 3-position valves are those switching from the neutral state of all port block.
5. When used as a double solenoid valve. Excludes **T0.**

Remark: Conversion to psi., 1MPa=145psi., 1kgf/cm²=14.2psi., e.g. 0.2MPa=29psi.

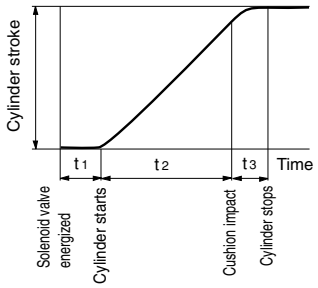
Solenoid Specifications

Item \ Rated voltage		DC12V	DC24V	AC100V	
Voltage range	V	10.8～13.2 （12±10%）	21.6～26.4 （24±10%）	90～110 （100±10%）	
Rated frequency	Hz	——	——	50	60
Current (When rated voltage is applied)	mA (r.m.s) Starting	——	——	10Note1	10Note1
	Energizing	76	38	10Note1	10Note1
Power consumption	W	0.9	0.9	1.0VA	
Allowable leakage current	mA	4.0	2.0	2.0	
Type of insulation		Type B			
Insulation resistance Note 2	MΩ	Min. 100			
LED indicator color Note3		SA：Red, SB：Green	SA：Red, SB：Green	SA：Red, SB：Green	
Surge suppression (as standard)		Flywheel diode		Bridge diode	

Notes: 1. Since the AC types have built-in bridge diodes, the starting current and energizing current value are virtually the same.
2. Value at DC500V megger.
3. The indicator color for **T0** is red only.

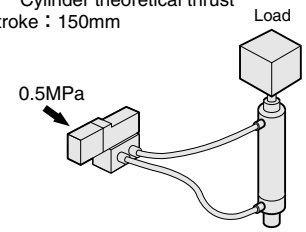
Cylinder Operating Speed

How to obtain the cylinder speed

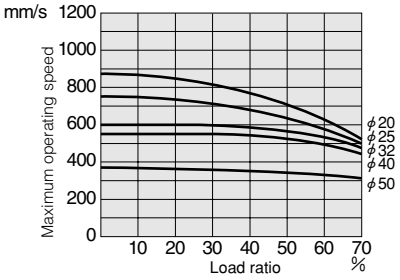


Measuring conditions

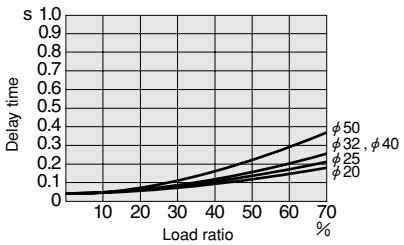
●Air pressure：0.5MPa {5.1kgf/cm²}
●Piping (outer diameter×inner diameter×length)：φ6×φ4×1000mm
●Fitting：Quick fitting TS6-01
●Load ratio＝$\frac{\text{Load}}{\text{Cylinder theoretical thrust}}$（%）
●Cylinder stroke：150mm



Maximum operating speed

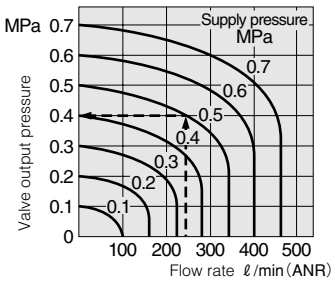


Delay time



Note: Delay time may vary according to the cylinder stroke.

Flow Rate



How to read the graph
If supply pressure is 0.5MPa and flow rate is 240 ℓ/min (ANR), the valve output pressure becomes 0.4MPa.

Port Size

●F10 Series

Description/piping specification		PR	P2	A, B	P, R
With sub-base		M5×0.8	M5×0.8	Rc1/8	Rc1/8
Single unit	With female thread block	—	—	M5×0.8	M5×0.8
	With different size fitting block	—	—	For both φ4 and φ6	M5×0.8
	With single size fitting block	—	—	φ4 or φ6	M5×0.8
Manifold	Monoblock type with female thread block, or PC board type with female thread block	M5×0.8	M5×0.8	M5×0.8	Rc1/8
	Monoblock type with fitting block, or PC board type with fitting block	M5×0.8	M5×0.8	For both φ4 and φ6	Rc1/8
	Monoblock type with single size fitting block, or PC board type with single size fitting block	M5×0.8	M5×0.8	φ4 or φ6	Rc1/8
	Split type with female thread block, or serial transmission type with female thread block	—	M5×0.8	M5×0.8	Rc1/4
	Split type with fitting block, or serial transmission type with fitting block	—	M5×0.8	For both φ4 and φ6	For both φ8 and φ10
	Split type with single size fitting block, or serial transmission type with single size fitting block	—	M5×0.8	φ4 or φ6	φ8, φ10

Effective Area〔Cv〕

●When using as a single unit

mm²

Basic model	Effective area〔Cv〕
F10T0□-F5 **F10T1□-F5** **F10T2□-F5** **F10T3□-F5** **F10T4□-F5** **F10T5□-F5**	3.5〔0.19〕
F10T0□-F6 **F10T1□-F6** **F10T2□-F6** **F10T3□-F6** **F10T4□-F6** **F10T5□-F6**	3.5〔0.19〕

●When mounted on a manifold

mm²

Valve model \ Manifold model		F10M□F	F10M□A	F10M□N
F10T0□ **F10T1□** **F10T2□**	Output port fitting for both φ4 and φ6	4.5〔0.25〕	4.0〔0.22〕	5.0〔0.28〕
F10T3□ **F10T4□** **F10T5□**	Output port female thread	4.5〔0.25〕	4.0〔0.22〕	4.5〔0.25〕
F10T0□ **F10T1□** **F10T2□**	Output port φ4 fitting	3.5〔0.19〕	3.3〔0.18〕	4.3〔0.24〕
F10T3□ **F10T4□** **F10T5□**	φ6 fitting	3.5〔0.19〕	3.3〔0.18〕	3.8〔0.21〕

Caution: When you use the individual air supply spacer or the individual air exhaust spacer, effective area decreases about 30%.

Mass

Single Valve Unit Mass

g

F10T□□	F10T□□-A1	F10T□□-A2	F10T□□-FJ	F10T□□-FJ5	F10T□□-FJ6
Output section None	Output section With plate	Output section With plate	Output section With different size fitting block	Output section With ϕ4 fitting block	Output section With ϕ6 fitting block
Input section None	Input section None	Input section With A type sub-base	Input section None	Input section None	Input section None
50	53	113	61	63	66

g

F10T□□-FM	F10T□□-F3	F10T□□-F4	F10T□□-F5	F10T□□-F6
Output section With female thread block	Output section With different size fitting block	Input section With female thread block	Output section With ϕ4 fitting block	Output section With ϕ6 fitting block
Input section None	Input section With female thread block	Input section With female thread block	Input section With female thread block	Input section With female thread block
57	69	65	71	74

Basic Type **F10T0** is 9g less than the mass shown above.

Monoblock Manifold Mass (included single valve unit)

g

Monoblock manifold	Mass calculation of each unit			
	A, B port output specifications			
	Female thread	Different size fitting block	ϕ4 fitting block	ϕ6 fitting block
A type	(97×n)+70	(101×n)+70	(103×n)+70	(106×n)+70
F type	(76×n)+70	(80×n)+70	(82×n)+70	(85×n)+70

Calculation example : **F10M8AM**

stn.1～stn.8 F10T1-A1-PS DC24V

(97×8)+70=846g

When mounting a block-off plate, calculate the female thread specifications at 45g less than the above calculation results per unit, while the different size fitting specifications are 50g, the ϕ4 fitting specifications 52g, and the ϕ6 fitting specifications 55g less.

When mounting the **F10T0** specifications, subtract 9g per unit from the above calculation results.

PC Board Manifold Mass (included single valves unit)

g

PC board manifold	Mass calculation of each unit				
	A, B port output specifications				Circuit board and connector section
	Female thread	Different size fitting block	ϕ4 fitting block	ϕ6 fitting block	
A type	(101×n)+70	(105×n)+70	(107×n)+70	(110×n)+70	(2×n)+15
F type	(76×n)+70	(80×n)+70	(82×n)+70	(85×n)+70	

Calculation example : **F10M8APM-F201-W**

stn.1～stn.8 F10T1-A1-PP DC24V

(101×8)+70+(2×8)+15=909g

When mounting a block-off plate, calculate the female thread specifications at 45g less than the above calculation results per unit, while the different size fitting specifications are 50g, the ϕ4 fitting specifications 52g, and the ϕ6 fitting specifications 55g less.

When mounting the **F10T0** specifications, subtract 9g per unit from the above calculation results.

Mass

Mass of Split Type Manifold and Serial Transmission Compatible Type

The split manifold has the same mass as that for the combination of valve output and manifold output specifications. The mass can only change with selection of the type of input/output block.

Mass of Split Manifold Non-Plug-in Type (included single valve unit)

g

Non-plug-in type	Mass calculation of each unit			
	A, B port output specifications			
	Female thread	Different size fitting block	ϕ4 fitting block	ϕ6 fitting block
	(70×n)+156	(74×n)+156	(76×n)+156	(79×n)+156

g

Additional mass			
Piping block specification			
Female thread	Different size fitting block	ϕ8 fitting block	ϕ10 fitting block
141	151	176	185

Calculation example : **F10M8N-MR**

stn.1～stn.8 F10T1-A1-PS DC24V

(70×8)+156+141=857g

When mounting a block-off plate, calculate the female thread specifications at 45g less than the above calculation results per unit, while the different size fitting specifications are 50g, the ϕ4 fitting specifications 52g, and the ϕ6 fitting specifications 55g less.

When mounting the **F10T0** specifications, subtract 9g per unit from the above calculation results.

Mass of Split Manifold Plug-in Type/Serial Transmission Compatible Type (included single valve unit)

g

Plug-in type Serial transmission compatible type	Mass calculation of each unit			
	A, B port output specifications			
	Female thread	Different size fitting block	ϕ4 fitting block	ϕ6 fitting block
	(72×n)+156	(76×n)+156	(78×n)+156	(81×n)+156

g

Additional mass			
Piping block specification			
Female thread	Different size fitting block	ϕ8 fitting block	ϕ10 fitting block
141	151	176	185

g

Additional mass			
Wiring block specification			
-F100, -F101	**-F200, -F201, -F260**	**-D250, -D251**	**-T200**
44	46	50	90

g

Transmission block mass	
Serial transmission block[Note]	
YS□□	**YS391**
160	110

Calculation example : **F10M8PM-MR-F201 DC24V**

stn.1～stn.8 F10T1-A1 DC24V

(72×8)+156+141+46=919g

When mounting a block-off plate, calculate the female thread specifications at 45g less than the above calculation results per unit, while the different size fitting specifications are 50g, the ϕ4 fitting specifications 52g, and the ϕ6 fitting specifications 55g less.

When mounting the **F10T0** specifications, subtract 9g per unit from the above calculation results.

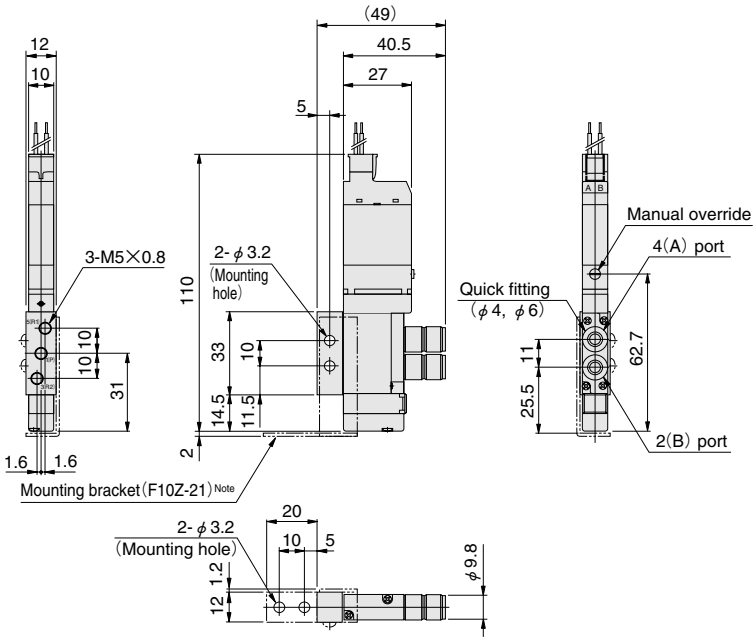
Note : For the serial transmission compatible manifold, add to the calculation the wiring block **-F201**(46g).

F10T

F10T Valve specification -F3-PS

With output port different size fitting block
With input port female thread block
S type plug connector

※For T0 type dimensions, see p.573.

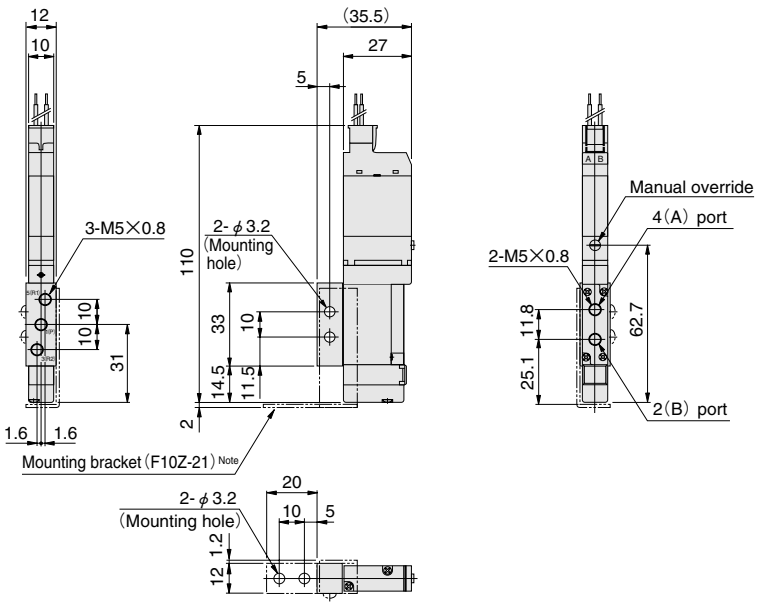


Note : The mounting bracket is additional part (sold separately).

F10T Valve specification -F4-PS

With output port female thread block
With input port female thread block
S type plug connector

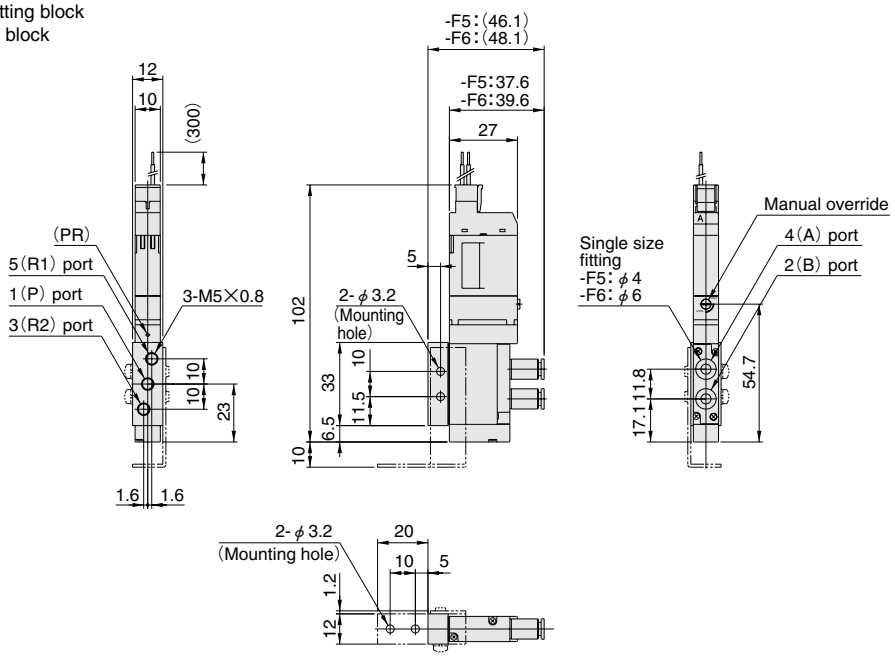
※For T0 type dimensions, see p.573.



Note :The mounting bracket is additional part (sold separately).

F10T0-F□-PS

With output port single size fitting block
With input port female thread block
S type plug connector



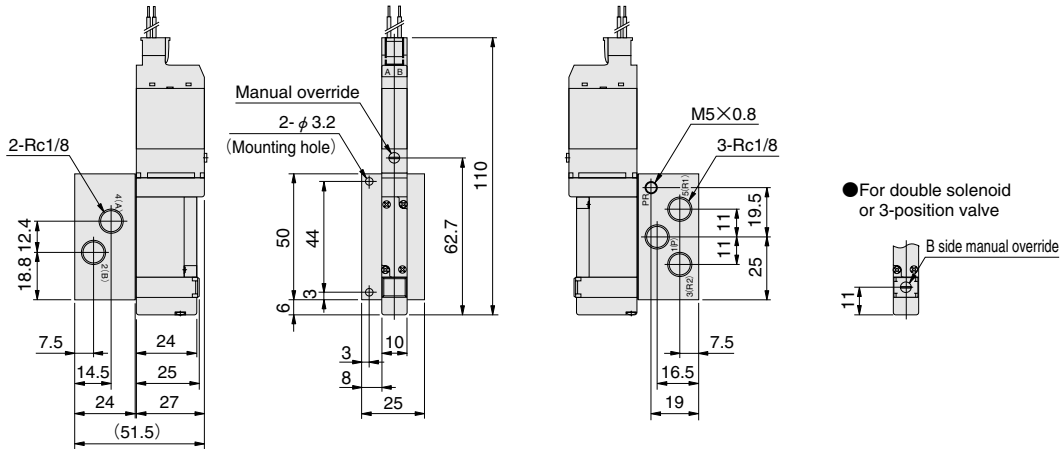
Note :The mounting bracket is additional part (sold separately).

F10T

F10T Valve specification Operation method -A2-PS

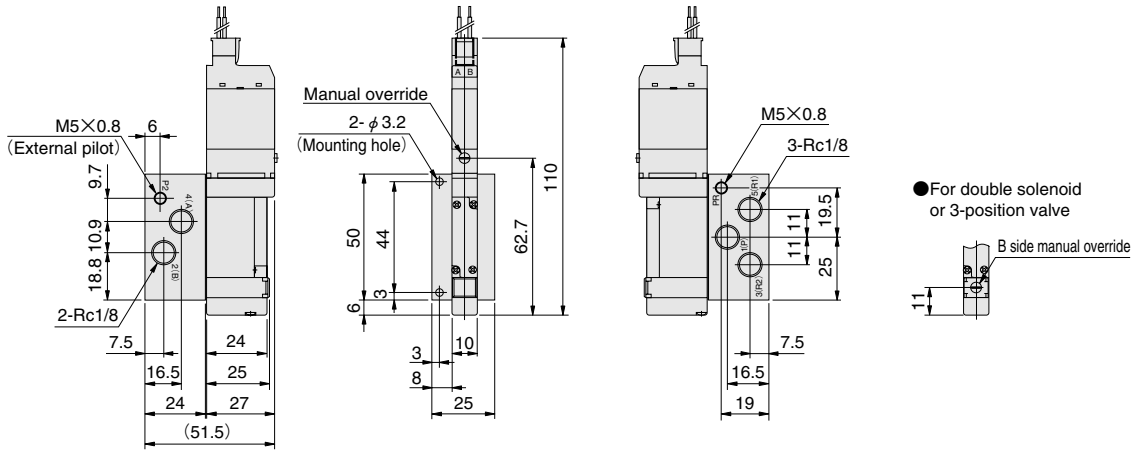
With A type sub-base
S type plug connector

●Internal pilot specification



Note : The T0 type is 8mm shorter for the total valve length (the end cover protrusion is 8mm shorter).

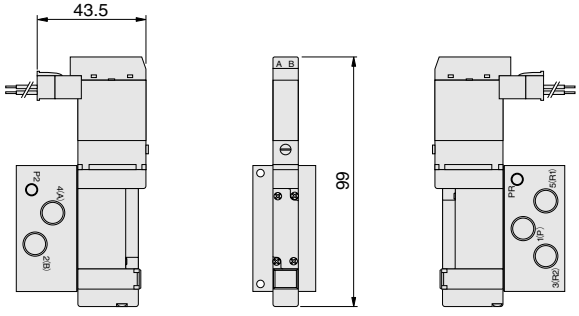
●External pilot specification



Note : The T0 type is 8mm shorter for the total valve length (the end cover protrusion is 8mm shorter).

Options

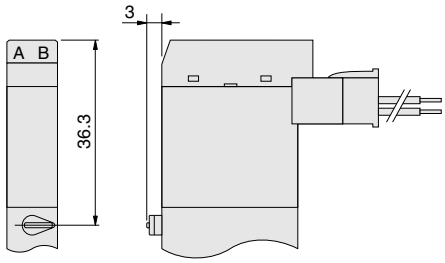
●L type plug connector : **-PL**



Note : The T0 type is 8mm shorter for the total valve length
(the end cover protrusion is 8mm shorter).

Made to Order

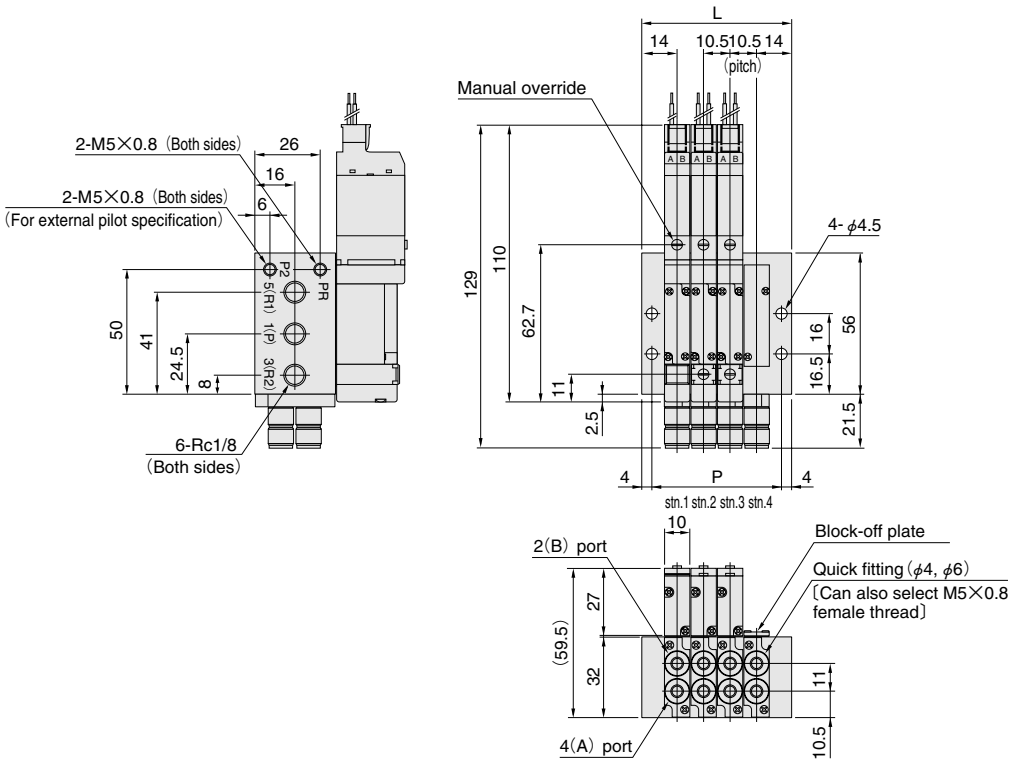
●Manual lever override
(Scale 2/3, Unit mm)



F10M Number of units A J/M Pilot specification (base piping type)

F10MA

Monoblock manifold A type
With manifold output port different size fitting block
S type plug connector

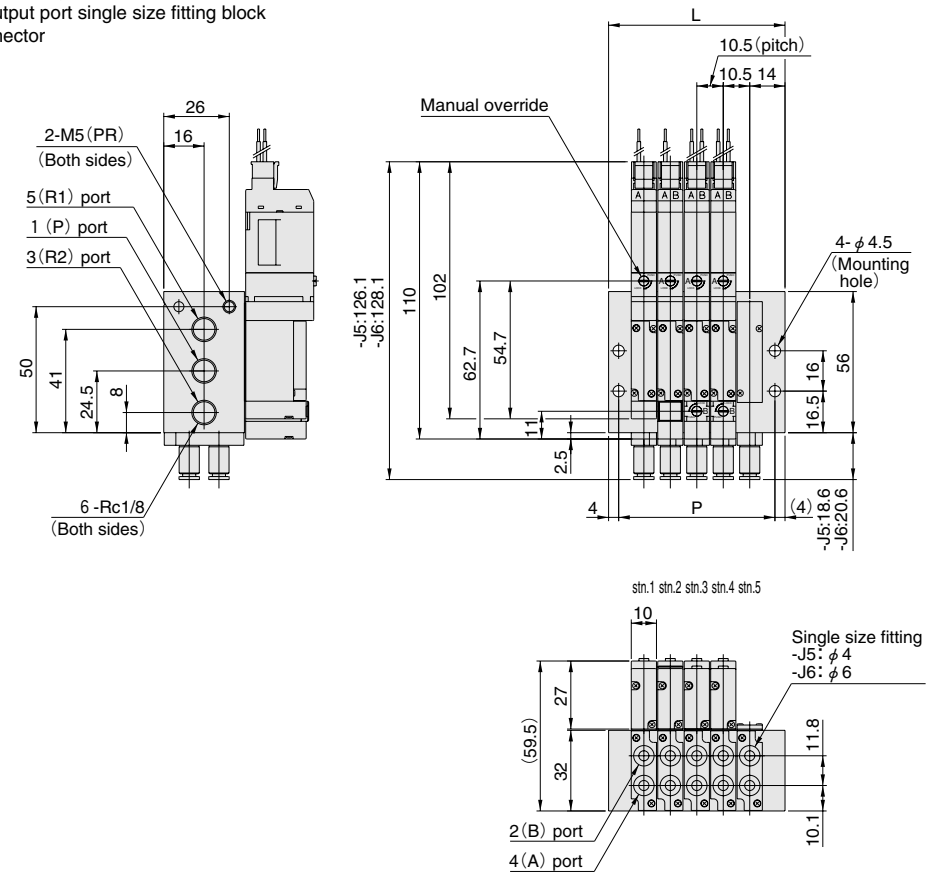


Unit dimensions

Number of units	L	P
2	38.5	30.5
3	49.0	41.0
4	59.5	51.5
5	70.0	62.0
6	80.5	72.5
7	91.0	83.0
8	101.5	93.5
9	112.0	104.0
10	122.5	114.5
11	133.0	125.0
12	143.5	135.5
13	154.0	146.0
14	164.5	156.5
15	175.0	167.0
16	185.5	177.5
17	196.0	188.0
18	206.5	198.5
19	217.0	209.0
20	227.5	219.5

F10M Number of units AL Pilot specification (base piping type)

Monoblock manifold A type
With manifold output port single size fitting block
S type plug connector



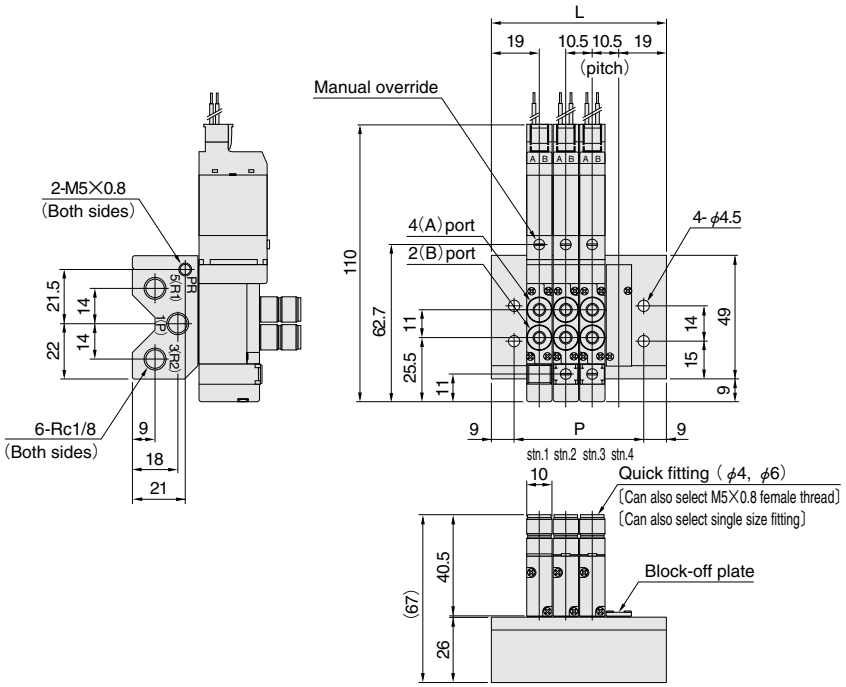
Unit dimensions

Number of units	L	P
2	38.5	30.5
3	49.0	41.0
4	59.5	51.5
5	70.0	62.0
6	80.5	72.5
7	91.0	83.0
8	101.5	93.5
9	112.0	104.0
10	122.5	114.5
11	133.0	125.0
12	143.5	135.5
13	154.0	146.0
14	164.5	156.5
15	175.0	167.0
16	185.5	177.5
17	196.0	188.0
18	206.5	198.5
19	217.0	209.0
20	227.5	219.5

F10M Number of units F (direct piping type)

F10MF

Monoblock manifold F type
With valve output port different size fitting block
S type plug connector



Unit dimensions

Number of units	L	P
2	48.5	30.5
3	59.0	41.0
4	69.5	51.5
5	80.0	62.0
6	90.5	72.5
7	101.0	83.0
8	111.5	93.5
9	122.0	104.0
10	132.5	114.5
11	143.0	125.0
12	153.5	135.5
13	164.0	146.0
14	174.5	156.5
15	185.0	167.0
16	195.5	177.5
17	206.0	188.0
18	216.5	198.5
19	227.0	209.0
20	237.5	219.5

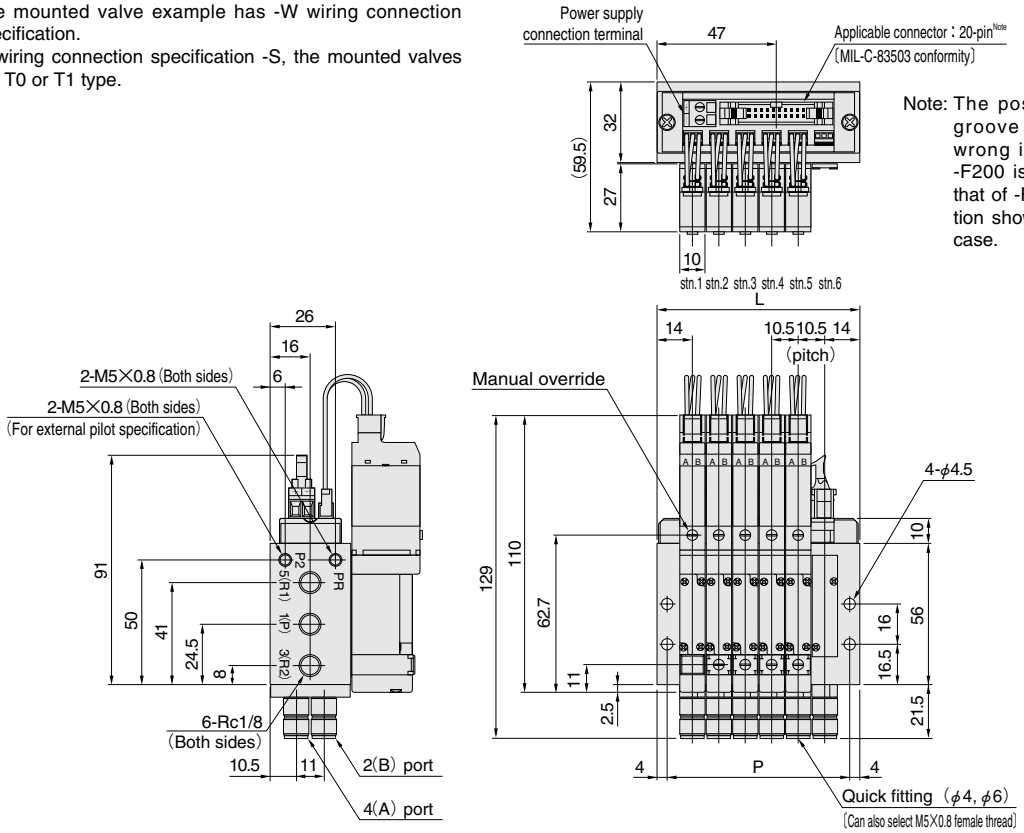
Note : The T0 type is 8mm shorter for the total valve length (the end cover protrusion is 8mm shorter).

F10M [Number of units] AP $^{J}_{M}$ [Pilot specification] (base piping type)

F10MAPJ

PC board manifold A type
With manifold output port different size fitting block

Note: The mounted valve example has -W wiring connection specification.
In wiring connection specification -S, the mounted valves are T0 or T1 type.



Note: The position of the groove preventing wrong insertions of -F200 is reversed to that of -F201. Illustration shows the -F201 case.

Unit dimensions

Number of units	L	P
6	80.5	72.5
8	101.5	93.5
10	122.5	114.5
12	143.5	135.5
14	164.5	156.5
16	185.5	177.5

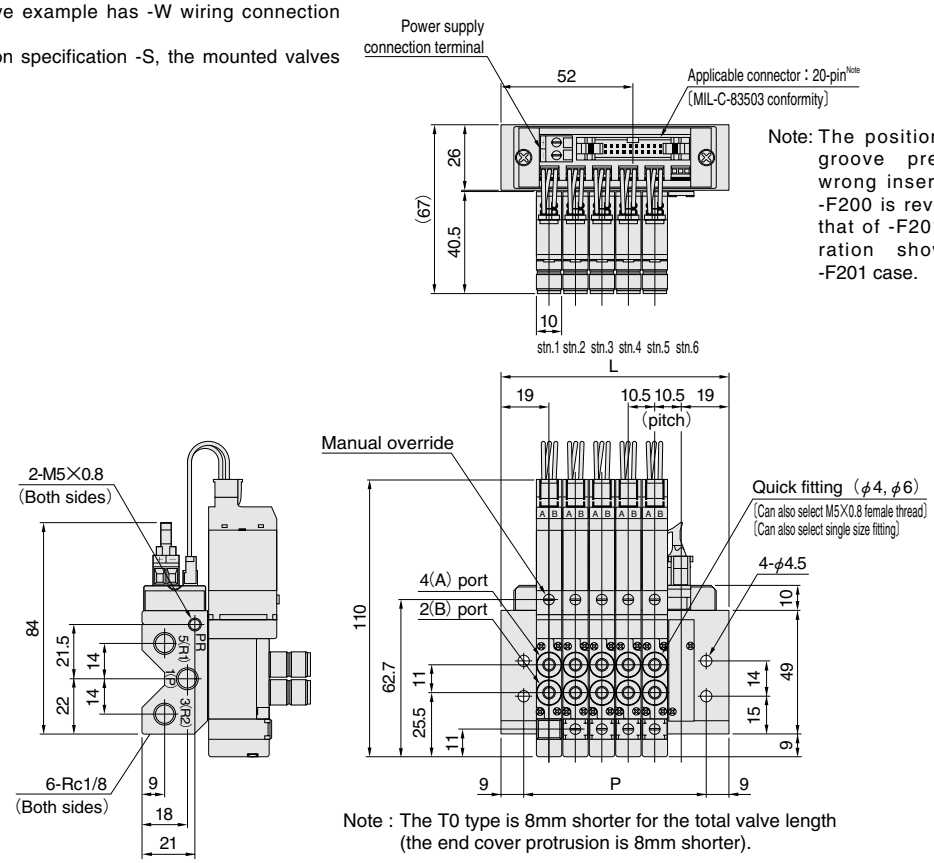
Note: Wiring connection specification
For -S
6, 8,10,12,14,16 units
For -W
6, 8 units

F10M [Number of units] FP (direct piping type)

F10MFP

PC board manifold F type
With valve output port different size fitting block

Note: The mounted valve example has -W wiring connection specification.
In wiring connection specification -S, the mounted valves are T0 or T1 type.



Note: The position of the groove preventing wrong insertions of -F200 is reversed to that of -F201. Illustration shows the -F201 case.

Note : The T0 type is 8mm shorter for the total valve length (the end cover protrusion is 8mm shorter).

Unit dimensions

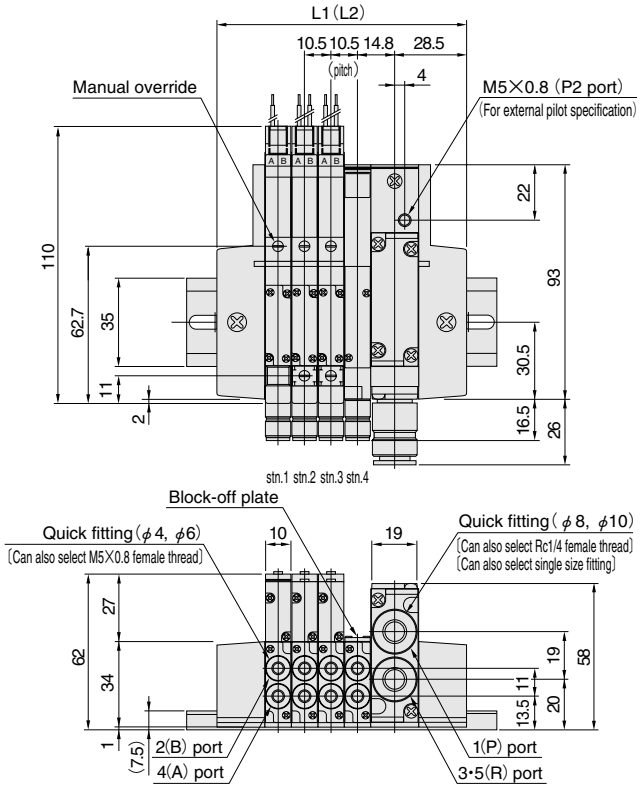
Number of units	L	P
6	90.5	72.5
8	111.5	93.5
10	132.5	114.5
12	153.5	135.5
14	174.5	156.5
16	195.5	177.5

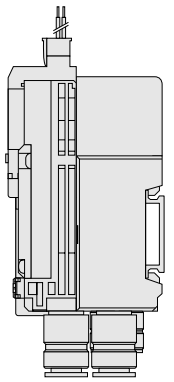
Note: Wiring connection specification
For -S
6, 8,10,12,14,16 units
For -W
6, 8 units

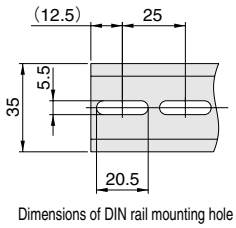
F10M [Number of units] N [J / M] [Pilot specification] (base piping type)

F10MNJ

With manifold output port different size fitting block
S type plug connector







Dimensions of DIN rail mounting hole

Unit dimensions

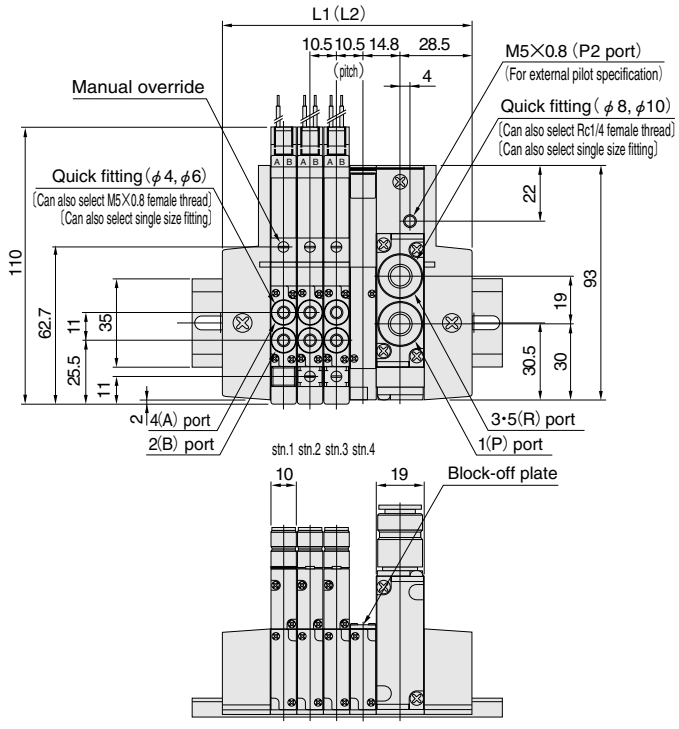
Number of units	L1	DIN rail length	L2 Note	DIN rail length Note
2	78.0	125	97.0	125
3	88.5	125	107.5	150
4	99.0	125	118.0	150
5	109.5	150	128.5	175
6	120.0	150	139.0	175
7	130.5	175	149.5	175
8	141.0	175	160.0	200
9	151.5	200	170.5	200
10	162.0	200	181.0	225
11	172.5	200	191.5	225
12	183.0	225	202.0	250
13	193.5	225	212.5	250
14	204.0	250	223.0	250
15	214.5	250	233.5	275
16	225.0	275	244.0	275
17	235.5	275	254.5	300
18	246.0	275	265.0	300
19	256.5	300	275.5	325
20	267.0	300	286.0	325

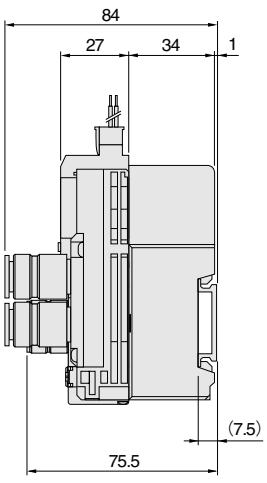
Note: When using two piping blocks.

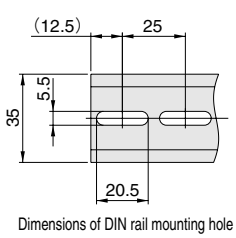
F10M [Number of units] N [Pilot specification] (direct piping type)

F10MN

With valve output port different size fitting block
S type plug connector







Dimensions of DIN rail mounting hole

Unit dimensions

Number of units	L1	DIN rail length	L2 Note	DIN rail length Note
2	78.0	125	97.0	125
3	88.5	125	107.5	150
4	99.0	125	118.0	150
5	109.5	150	128.5	175
6	120.0	150	139.0	175
7	130.5	175	149.5	175
8	141.0	175	160.0	200
9	151.5	200	170.5	200
10	162.0	200	181.0	225
11	172.5	200	191.5	225
12	183.0	225	202.0	250
13	193.5	225	212.5	250
14	204.0	250	223.0	250
15	214.5	250	233.5	275
16	225.0	275	244.0	275
17	235.5	275	254.5	300
18	246.0	275	265.0	300
19	256.5	300	275.5	325
20	267.0	300	286.0	325

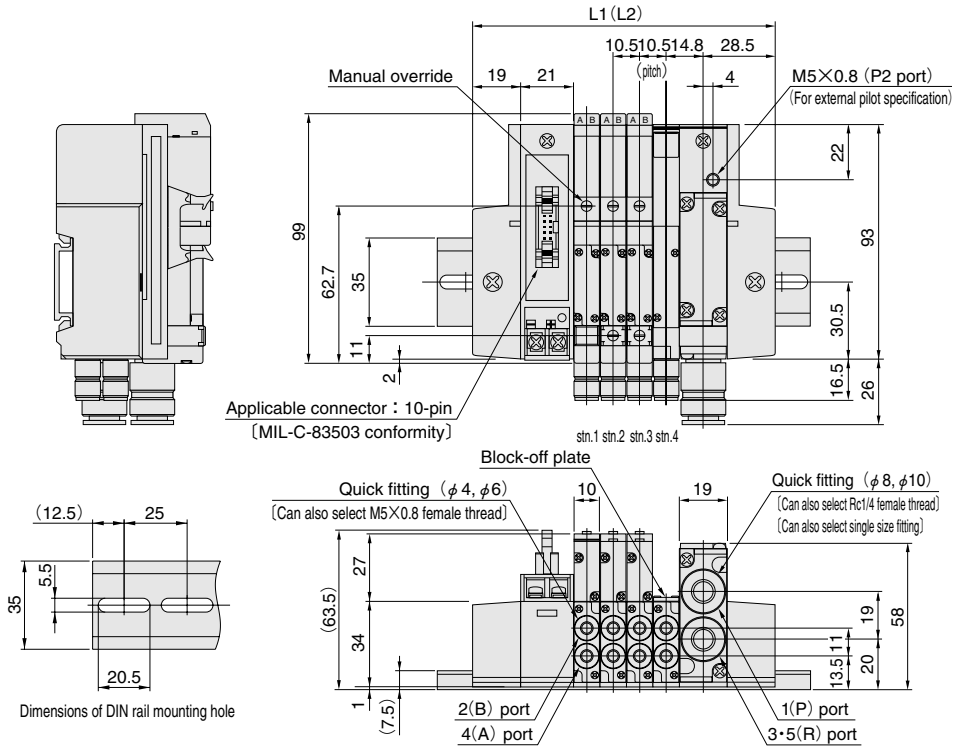
Note: When using two piping blocks.

Note : The T0 type is 8mm shorter for the total valve length (the end cover protrusion is 8mm shorter).

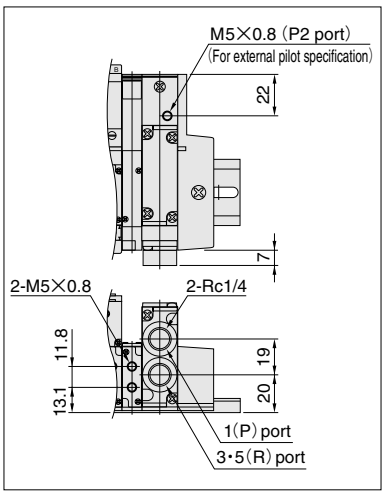
CAD Combination of F10MPJ and F10-CONT

F10M [Number of units] P J/M [Pilot specification] (base piping type)

With manifold output port different size fitting block
Flat cable connector 10-pin specification



Female thread specification (Scale1/4, Unit mm)



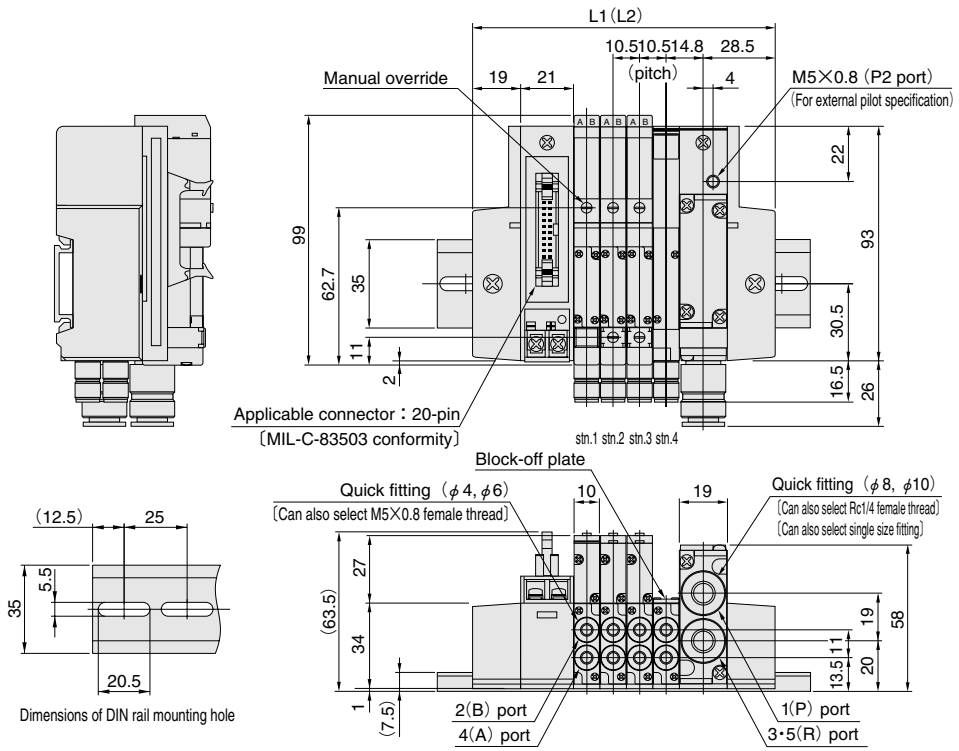
Unit dimensions

Number of units	L1	DIN rail length	L2 Note	DIN rail length Note
2	99.0	125	118.0	150
3	109.5	150	128.5	175
4	120.0	150	139.0	175
5	130.5	175	149.5	175
6	141.0	175	160.0	200
7	151.5	200	170.5	200
8	162.0	200	181.0	225

Note: When using two piping blocks.

F10M [Number of units] P J/M [Pilot specification] (base piping type)

With manifold output port different size fitting block
Flat cable connector 20-pin specification



Unit dimensions

Number of units	L1	DIN rail length	L2 Note	DIN rail length Note
2	99.0	125	118.0	150
3	109.5	150	128.5	175
4	120.0	150	139.0	175
5	130.5	175	149.5	175
6	141.0	175	160.0	200
7	151.5	200	170.5	200
8	162.0	200	181.0	225
9	172.5	200	191.5	225
10	183.0	225	202.0	250
11	193.5	225	212.5	250
12	204.0	250	223.0	250
13	214.5	250	233.5	275
14	225.0	275	244.0	275
15	235.5	275	254.5	300
16	246.0	275	265.0	300

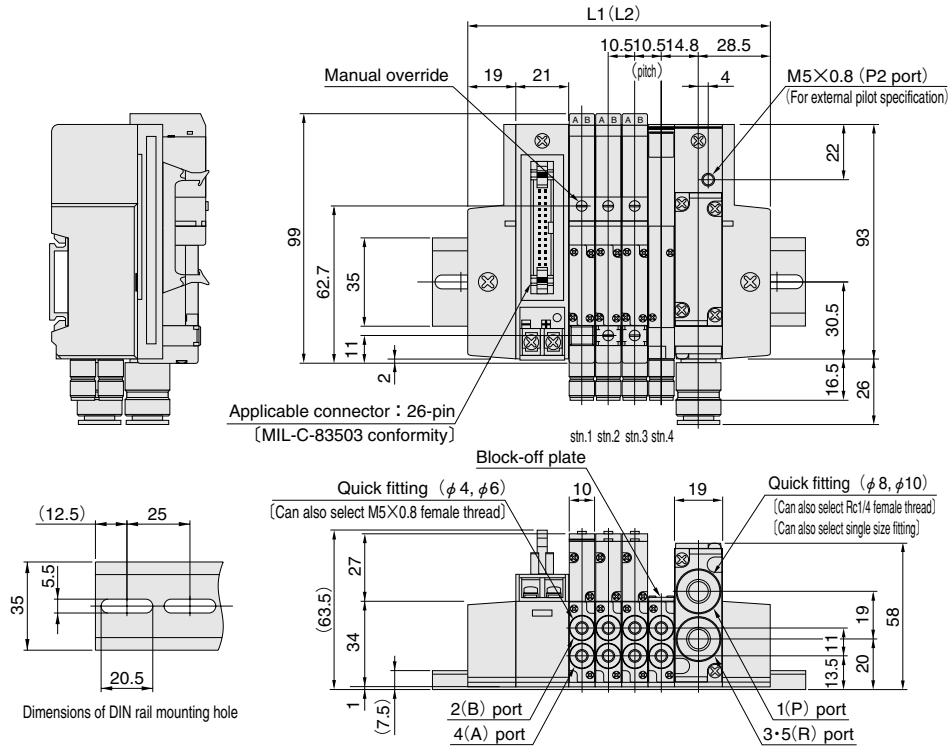
Note: When using two piping blocks.

F10 Series Dimensions of Split Manifold Plug-in Type (Scale 1/3, Unit mm)

Combination of F10MPJ and F10-CONT

F10M [Number of units] P J/M [Pilot specification] (base piping type)

With manifold output port different size fitting block
Flat cable connector 26-pin specification



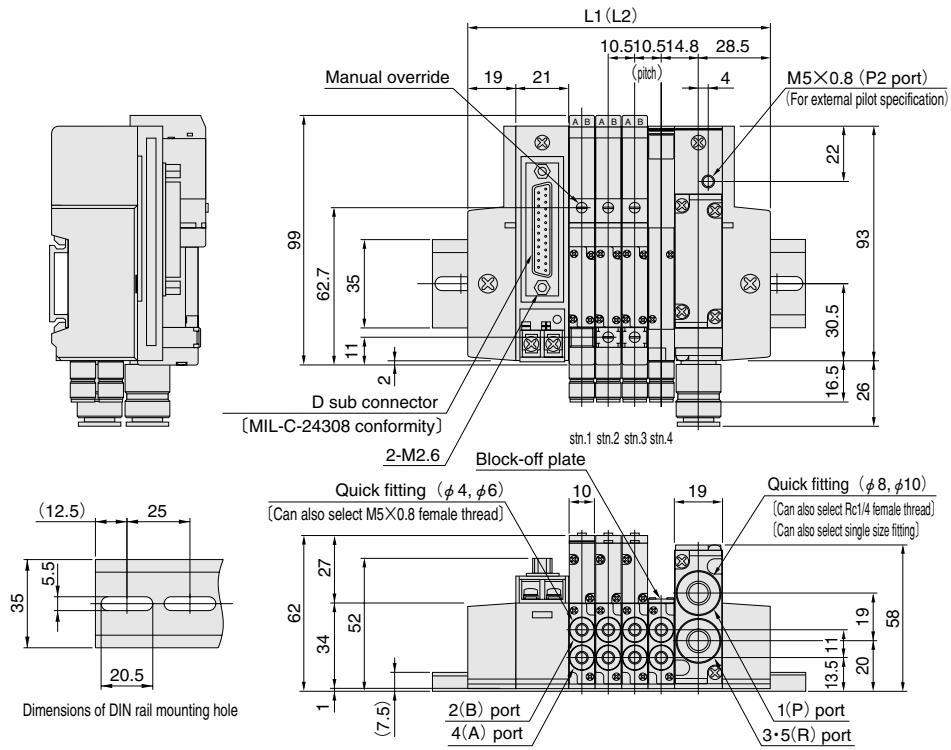
Unit dimensions

Number of units	L1	DIN rail length	L2 Note	DIN rail length Note
2	99.0	125	118.0	150
3	109.5	150	128.5	175
4	120.0	150	139.0	175
5	130.5	175	149.5	175
6	141.0	175	160.0	200
7	151.5	200	170.5	200
8	162.0	200	181.0	225
9	172.5	200	191.5	225
10	183.0	225	202.0	250
11	193.5	225	212.5	250
12	204.0	250	223.0	250
13	214.5	250	233.5	275
14	225.0	275	244.0	275
15	235.5	275	254.5	300
16	246.0	275	265.0	300
17	256.5	300	275.5	325
18	267.0	300	286.0	325
19	277.5	325	296.5	325
20	288.0	325	307.0	350

Note: When using two piping blocks.

F10M [Number of units] P J/M [Pilot specification] (base piping type)

With manifold output port different size fitting block
D sub connector 25-pin specification



Unit dimensions

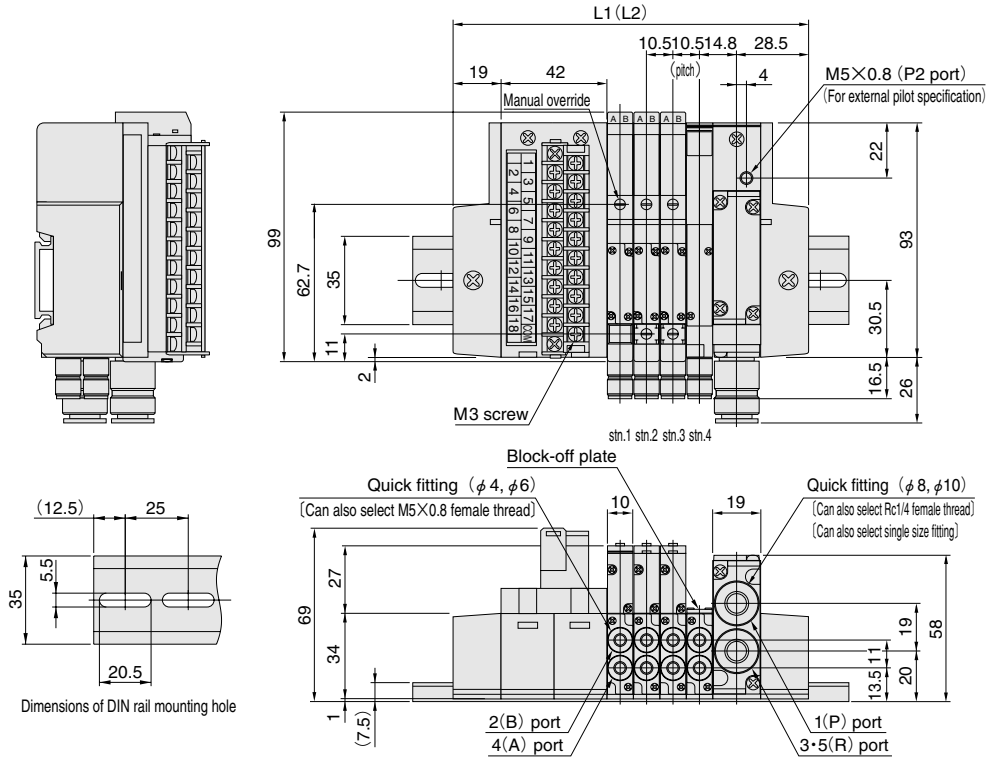
Number of units	L1	DIN rail length	L2 Note	DIN rail length Note
2	99.0	125	118.0	150
3	109.5	150	128.5	175
4	120.0	150	139.0	175
5	130.5	175	149.5	175
6	141.0	175	160.0	200
7	151.5	200	170.5	200
8	162.0	200	181.0	225
9	172.5	200	191.5	225
10	183.0	225	202.0	250
11	193.5	225	212.5	250
12	204.0	250	223.0	250
13	214.5	250	233.5	275
14	225.0	275	244.0	275
15	235.5	275	254.5	300
16	246.0	275	265.0	300
17	256.5	300	275.5	325
18	267.0	300	286.0	325
19	277.5	325	296.5	325
20	288.0	325	307.0	350

Note: When using two piping blocks.

F10M Number of units P J/M Pilot specification (base piping type)

Combination of F10MPJ and F10-CONT

With manifold output port different size fitting block
Terminal block type



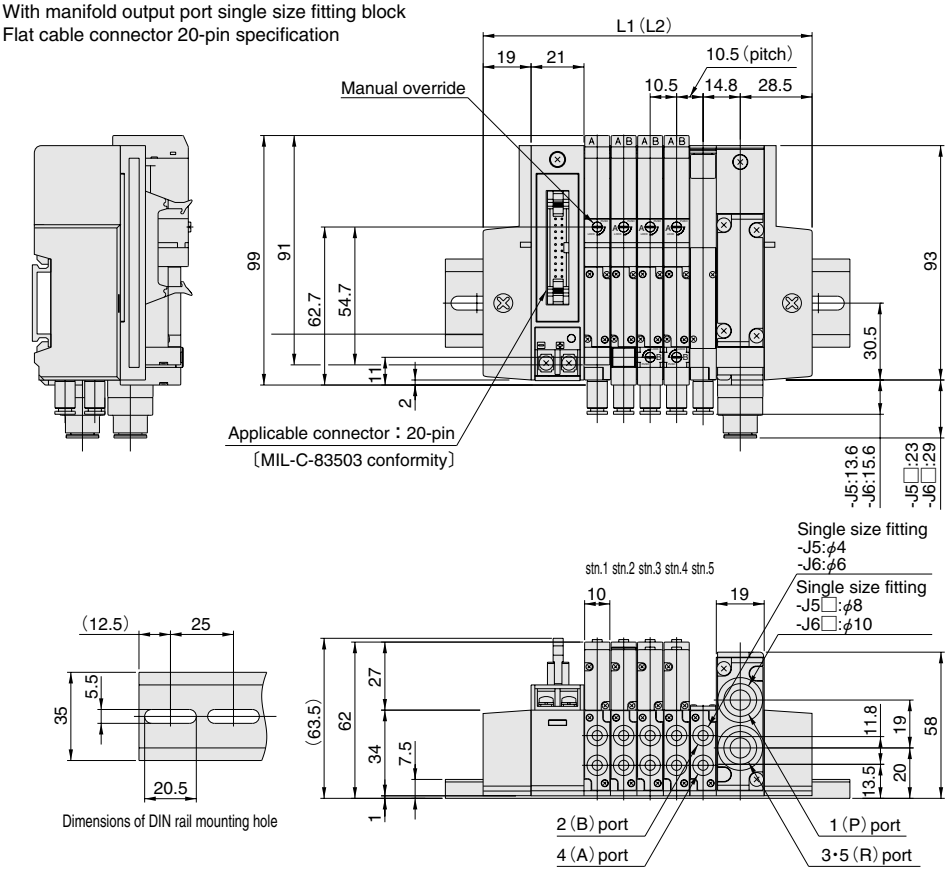
Unit dimensions

Number of units	L1	DIN rail length	L2 Note	DIN rail length Note
2	120.0	150	139.0	175
3	130.5	175	149.5	175
4	141.0	175	160.0	200
5	151.5	200	170.5	200
6	162.0	200	181.0	225
7	172.5	200	191.5	225
8	183.0	225	202.0	250
9	193.5	225	212.5	250
10	204.0	250	223.0	250
11	214.5	250	233.5	275
12	225.0	275	244.0	275
13	235.5	275	254.5	300
14	246.0	275	265.0	300
15	256.5	300	275.5	325
16	267.0	300	286.0	325
17	277.5	325	296.5	325
18	288.0	325	307.0	350

Note: When using two piping blocks.

F10M Number of units PL Pilot specification (base piping type)

With manifold output port single size fitting block
Flat cable connector 20-pin specification



Unit dimensions

Number of units	L1	DIN rail length	L2 Note	DIN rail length Note
2	99.0	125	118.0	150
3	109.5	150	128.5	175
4	120.0	150	139.0	175
5	130.5	175	149.5	175
6	141.0	175	160.0	200
7	151.5	200	170.5	200
8	162.0	200	181.0	225
9	172.5	200	191.5	225
10	183.0	225	202.0	250
11	193.5	225	212.5	250
12	204.0	250	223.0	250
13	214.5	250	233.5	275
14	225.0	275	244.0	275
15	235.5	275	254.5	300
16	246.0	275	265.0	300

Note: When using two piping blocks.

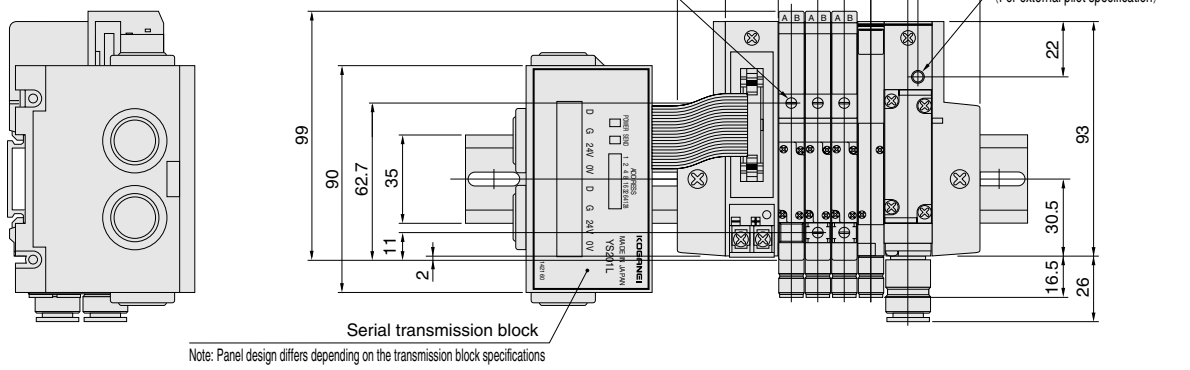
F10 Series Dimensions of Serial Transmission Compatible Manifold (Scale 1/3, Unit mm)

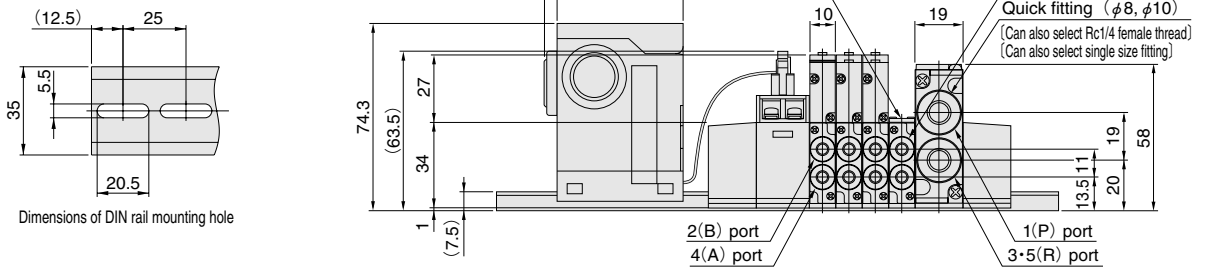
※For dimensions of the Manifold for Omron CompoBus / D, see p. 583.

F10M Number of units S J M Pilot specification (base piping type)

F10MSJ

With manifold output port different size fitting block

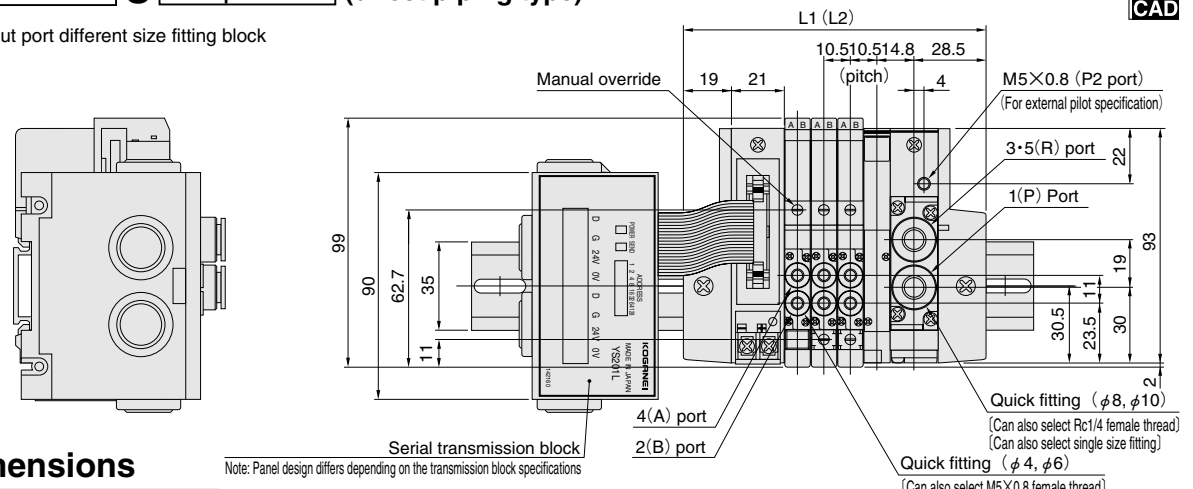


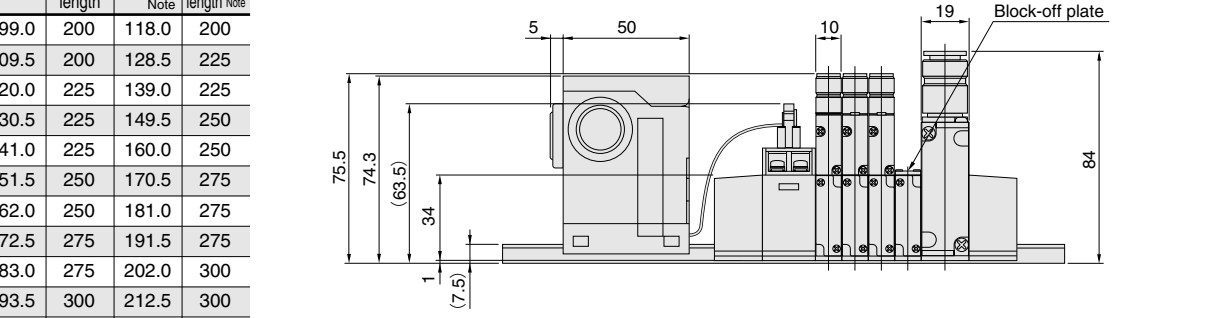


F10M Number of units S Pilot specification (direct piping type)

F10MS

With valve output port different size fitting block





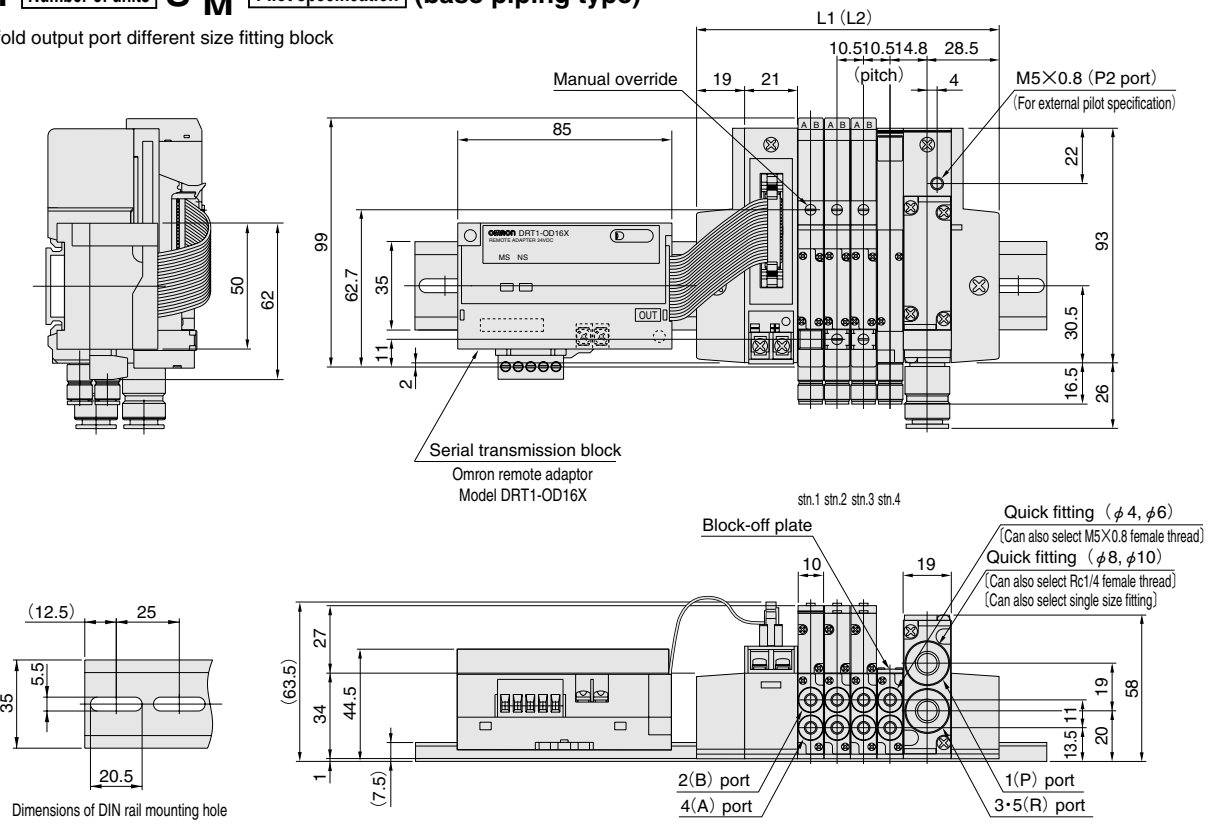
Unit dimensions

Number of units	L1	DIN rail length	L2 Note	DIN rail length Note
2	99.0	200	118.0	200
3	109.5	200	128.5	225
4	120.0	225	139.0	225
5	130.5	225	149.5	250
6	141.0	225	160.0	250
7	151.5	250	170.5	275
8	162.0	250	181.0	275
9	172.5	275	191.5	275
10	183.0	275	202.0	300
11	193.5	300	212.5	300
12	204.0	300	223.0	325
13	214.5	300	233.5	325
14	225.0	325	244.0	350
15	235.5	325	254.5	350
16	246.0	350	265.0	350

Note: When using two piping blocks.

F10M Number of units S J/M Pilot specification (base piping type)

With manifold output port different size fitting block



Unit dimensions

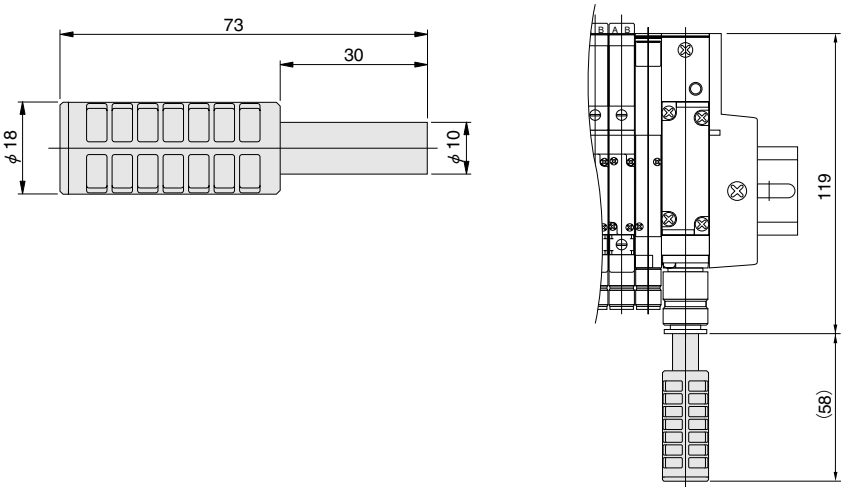
Number of units	L1	DIN rail length	L2 Note	DIN rail length Note
2	99.0	225	118.0	250
3	109.5	225	128.5	250
4	120.0	250	139.0	250
5	130.5	250	149.5	275
6	141.0	275	160.0	275
7	151.5	275	170.5	300
8	162.0	275	181.0	300
9	172.5	300	191.5	325
10	183.0	300	202.0	325
11	193.5	325	212.5	350
12	204.0	325	223.0	350
13	214.5	325	233.5	350
14	225.0	350	244.0	375
15	235.5	350	254.5	375
16	246.0	380	265.0	375

Note : When using two piping blocks.

Additional Parts (Sold Separately)

●Muffler : **KM-J10** [For both plug-in and non-plug-in type]

(Scale 2/3, Unit mm)



SOLENOID VALVES F15 SERIES

INDEX

Specifications ——— 586

Dimensions of Single Valve Unit ——— 590

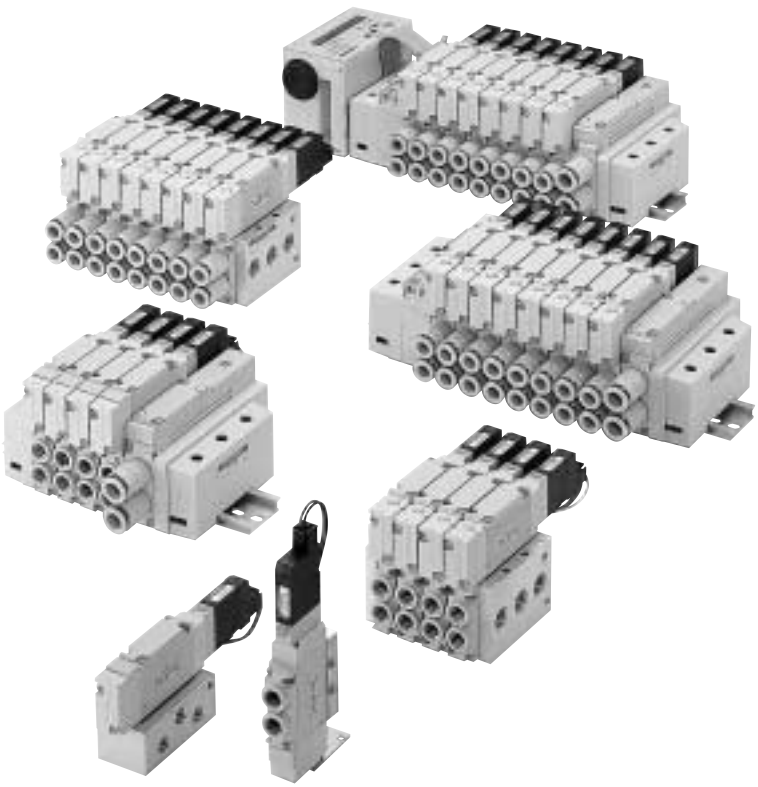
Dimensions of Monoblock Manifold ——— 593

Dimensions of PC Board Manifold ——— 595

Dimensions of Split Manifold Non-Plug-in Type ——— 596

Dimensions of Split Manifold Plug-in Type ——— 597

Dimensions of Serial Transmission Compatible Manifold ——— 600



F15 SERIES SPECIFICATIONS

Specifications

Basic Models and Functions

Item \ Basic model	F15T0	F15T1 F15T2	F15T3 F15T4 F15T5
Number of positions	2 positions		3 positions
Number of ports	5		
Valve function	For single solenoid only	For both single and double solenoid	All port block, ABR connection, PAB connection

Remark: For the optional specifications and order code, see p.532 ~ 556.

Specifications

Item \ Basic model		F15T0 F15T1 F15T2	F15T3 F15T4 F15T5	F15T0G F15T1G F15T2G	F15T3G F15T4G F15T5G	F15T0V F15T1V F15T2V	F15T3V
Media		Air					
Operation method		Internal pilot type		External pilot type (for positive pressure)		External pilot type (for vacuum)	
Effective area〔CV〕Note1 mm²		10〔0.56〕					
Port size Note2		Fitting for both ϕ6 and ϕ8, Rc1/8		M5×0.8, Fitting for both ϕ6 and ϕ8, Rc1/8			
Lubrication		Not required					
Operating pressure range	Main valve	0.15～0.7MPa {1.5～7.1kgf/cm²}		0～0.7MPa {0～7.1kgf/cm²} Note3		0.15MPa～−100kPa {1.5kgf/cm²～−750.1mmHg}	
	External pilot	——		0.2～0.7MPa {2～7.1kgf/cm²} Note3		0.2～0.7MPa {2～7.1kgf/cm²}	
Proof pressure MPa {kgf/cm²}		1.05 {10.7}					
Response time Note4 ms ON/OFF time	DC12V, DC24V	Max.20／30	Max.15／50	Max.20／30	Max.15／50	Max.20／30	Max.15／50
	AC100V	Max.20／30	Max.15／50	Max.20／30	Max.15／50	Max.20／30	Max.15／50
Maximum operating frequency Hz		5					
Minimum time to energize for self holding Note5 ms		50	——	50	——	50	——
Operating temperature range (atmosphere and media) ℃		5～50					
Shock resistance m/s² {G}		1373 {140.0} (Axial direction 294.2 {30.0})	294.2 {30.0}	1373 {140.0} (Axial direction 294.2 {30.0})	294.2 {30.0}	1373 {140.0} (Axial direction 294.2 {30.0})	294.2 {30.0}
Mounting direction		Any					

Notes: 1. For details, see the effective area on p.587.
2. For details, see the port size on p.587.
3. When the main valve pressure is 0.2~0.7MPa, set the external pilot pressure to the main valve pressure or higher, and to 0.7MPa or less.
4. Values when air pressure is 0.5MPa. For switching phase timing, add a maximum of 5 ms to the response time of AC specification. The values for 2-position valves are when used as a single solenoid, and the values for 3-position valves are those switching from the neutral state of all port block.
5. When used as a double solenoid valve. Excludes **T0.**

Remark: Conversion to psi., 1Mpa=145psi., 1kgf/cm²=14.2psi., e.g. 0.15Mpa=21.8psi.

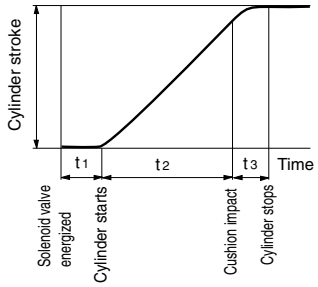
Solenoid Specifications

Item \ Rated voltage		DC12V	DC24V	AC100V	
Voltage range V		10.8～13.2 (12±10%)	21.6～26.4 (24±10%)	90～110 (100±10%)	
Rated frequency Hz		——	——	50	60
Current mA (r.m.s)	Starting	——	——	10 Note 1	10 Note 1
(When rated voltage is applied)	Energizing	76	38	10 Note 1	10 Note 1
Power consumption W		0.9	0.9	1.0VA	
Allowable leakage current mA		4.0	2.0	2.0	
Type of insulation		Type B			
Insulation resistance Note 2 MΩ		Min. 100			
Color of LED indicator Note3		SA：Red, SB：Green	SA：Red, SB：Green	SA：Red, SB：Green	
Surge suppression (as standard)		Flywheel diode		Bridge diode	

Notes: 1. Since the AC types have built-in bridge diodes, the starting current and energizing current value are virtually the same.
2. Value at DC500V megger.
3. The indicator color for **T0** is red only.

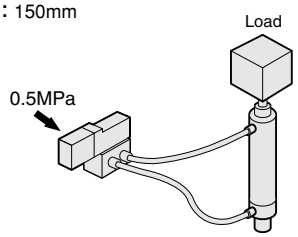
Cylinder Operating Speed

How to obtain the cylinder speed

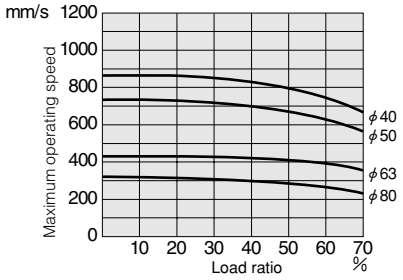


Measuring conditions

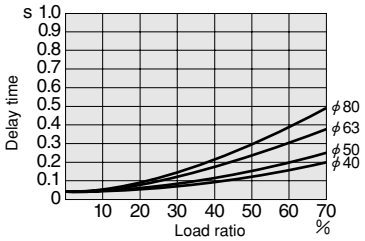
- Air pressure : 0.5MPa {5.1kgf/cm²}
- Piping (outer diameter×inner diameter×length) : φ8×φ6×1000mm
- Fitting : Quick fitting TS8-01
- Load ratio = $\frac{\text{Load}}{\text{Cylinder theoretical thrust}}$ (%)
- Cylinder stroke : 150mm



Maximum operating speed

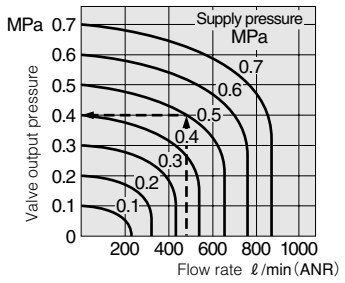


Delay time



Note: Delay time may vary according to the cylinder stroke.

Flow Rate



How to read the graph

If supply pressure is 0.5MPa and flow rate is 500 ℓ/min (ANR), the valve output pressure becomes 0.4MPa.

Port Size

●F15 Series

Description/Piping specification		PR	P2	A, B	P, R
With sub-base		M5×0.8	M5×0.8	Rc1/8	Rc1/8
Single unit	With female thread block	—	—	Rc1/8	Rc1/8
	With different size fitting block	—	—	For both φ6 and φ8	Rc1/8
	With single size fitting block	—	—	φ6 or φ8	Rc1/8
Manifold	Monoblock type with female thread block, or PC board type with female thread block	M5×0.8	M5×0.8	Rc1/8	Rc1/4
	Monoblock type with fitting block, or PC board type with fitting block	M5×0.8	M5×0.8	For both φ6 and φ8	Rc1/4
	Monoblock type with single size fitting block, or PC board type with single size fitting block	M5×0.8	M5×0.8	φ6 or φ8	Rc1/4
	Split type with female thread block, or serial transmission type with female thread block	—	M5×0.8	Rc1/8	Rc1/4
	Split type with fitting block, or serial transmission type with fitting block	—	M5×0.8	For both φ6 and φ8	For both φ8 and φ10
	Split type with single size fitting block, or serial transmission type with single size fitting block	—	M5×0.8	φ6 or φ8	φ8, φ10

Effective Area 〔Cv〕

●When using as a single unit

mm²

Basic model	Effective area 〔Cv〕
F15T0□-F5 **F15T1□-F5** **F15T2□-F5** **F15T3□-F5** **F15T4□-F5** **F15T5□-F5**	8.0 〔0.44〕
F15T0□-F6 **F15T1□-F6** **F15T2□-F6** **F15T3□-F6** **F15T4□-F6** **F15T5□-F6**	8.5 〔0.47〕

●When mounted on a manifold

mm²

Valve Type \ Manifold model		F15M□F	F15M□A	F15M□N
F15T0□ **F15T1□** **F15T2□** **F15T3□** **F15T4□** **F15T5□**	Output port Fitting for both φ6 and φ8 Female thread	9.2 〔0.51〕	8.5 〔0.47〕	10.0 〔0.56〕
	Output port φ6 fitting	7.7 〔0.43〕	7.2 〔0.40〕	8.7 〔0.48〕
	Output port φ8 fitting	8.2 〔0.45〕	8.0 〔0.44〕	9.7 〔0.54〕

Caution: When you use the individual air supply spacer or the individual air exhaust spacer, effective area decreases about 30%.

Mass

Single Valve Unit Mass

g

F15T□□	F15T□□-A1	F15T□□-A2	F15T□□-FJ	F15T□□-FJ5	F15T□□-FJ6
Output section None	Output section With plate	Output section With plate	Output section With different size fitting block	Output section With ϕ6 fitting block	Output section With ϕ8 fitting block
Input section None	Input section None	Input section With A type sub-base	Input section None	Input section None	Input section None
87	106	216	117	123	133

g

F15T□□-FM	F15T□□-F3	F15T□□-F4	F15T□□-F5	F15T□□-F6
Output section With female thread block	Output section With different size fitting block	Output section With female thread block	Output section With ϕ6 fitting block	Output section With ϕ8 fitting block
Input section None	Input section With female thread block	Input section With female thread block	Input section With female thread block	Input section With female thread block
108	132	123	138	148

Basic Type **F15T0** is 12g less than the mass shown above.

Monoblock Manifold Mass (included single valve unit)

g

Monoblock manifold	Mass calculation of each unit			
	A, B port output specifications			
	Female thread	Different size fitting block	ϕ6 fitting block	ϕ8 fitting block
A type	(224×n)+100	(234×n)+100	(240×n)+100	(250×n)+100
F type	(155×n)+105	(165×n)+105	(171×n)+105	(181×n)+105

Calculation example : **F15M8AM**
stn.1～stn.8 F15T1-A1-PS DC24V
(224×8)+100=1892g
When mounting a block-off plate, calculate the female thread specifications at 90g less than the above calculation results per unit, while the differing size fitting specifications are 100g, ϕ6 fitting specifications 106g, and the ϕ8 fitting specifications 116g less.
When mounting the **F15T0** specifications, subtract 12g per unit from the above calculation results.

PC Board Manifold Mass (included single valve unit)

g

PC board manifold	Mass calculation of each unit				
	A, B port output specifications				Circuit board and connector section
	Female thread	Different size fitting block	ϕ6 fitting block	ϕ8 fitting block	
A type	(224×n)+100	(234×n)+100	(240×n)+100	(250×n)+100	(2×n)+15
F type	(155×n)+105	(165×n)+105	(171×n)+105	(181×n)+105	

Calculation example : **F15M8APM-F201-W**
stn.1～stn.8 F15T1-A1-PP DC24V
(224×8)+100+(2×8)+15=1923g
When mounting a block-off plate, calculate the female thread specifications at 90g less than the above calculation results per unit, while the differing size fitting specifications are 100g, ϕ6 fitting specifications 106g, and the ϕ8 fitting specifications 116g less.
When mounting the **F15T0** specifications, subtract 12g per unit from the above calculation results.

Mass

Mass of Split Manifold and Serial Transmission Compatible Type

The split manifold has the same mass as that for the combination of valve output and manifold output specifications. The mass can only change with selection of the type of input/output block.

Mass of Split Manifold Non-Plug-in Type (included single valve unit)

g

Non-plug-in type	Mass calculation of each unit			
	A, B port output specifications			
	Female thread	Different size fitting block	φ6 fitting block	φ8 fitting block
	(166×n)+254	(176×n)+254	(182×n)+254	(192×n)+254

g

Additional mass			
Piping block specification			
Female thread	Different size fitting block	φ8 fitting block	φ10 fitting block
150	160	185	194

Calculation example : **F15M8N-MR**
stn.1～stn.8 F15T1-A1-PS DC24V
(166×8)+254+150=1732g
When mounting a block-off plate, calculate the female thread specifications at 90g less than the above calculation results per unit, while the differing size fitting specifications are 100g, φ6 fitting specifications 106g, and the φ8 fitting specifications 116g less.
When mounting the **F15T0** specifications, subtract 12g per unit from the above calculation results.

Mass of Split Manifold Plug-in Type/ Serial Transmission Compatible Type（included single valve unit）

g

Plug-in type Serial transmission compatible type	Mass calculation of each unit			
	A, B port output specifications			
	Female thread	Different size fitting block	φ6 fitting block	φ8 fitting block
	(168×n)+254	(176×n)+254	(182×n)+254	(192×n)+254

g

Additional mass			
Piping block specification			
Female thread	Different size fitting block	φ8 fitting block	φ10 fitting block
150	160	185	194

g

Additional mass			
Wiring block specification			
-F100, -F101	**-F200, -F201, -F260**	**-D250, -D251**	**-T200**
68	70	70	150

g

Transmission block mass	
Serial transmission block[Note]	
YS□□	**YS391**
160	110

Calculation example : **F15M8PM-MR-F201 DC24V**
stn.1～stn.8 F15T1-A1 DC24V
(168×8)+254+150+70=1818g
When mounting a block-off plate, calculate the female thread specifications at 90g less than the above calculation results per unit, while the differing size fitting specifications are 100g, φ6 fitting specifications 106g, and the φ8 fitting specifications 116g less.
When mounting the **F15T0** specifications, subtract 12g per unit from the above calculation results.

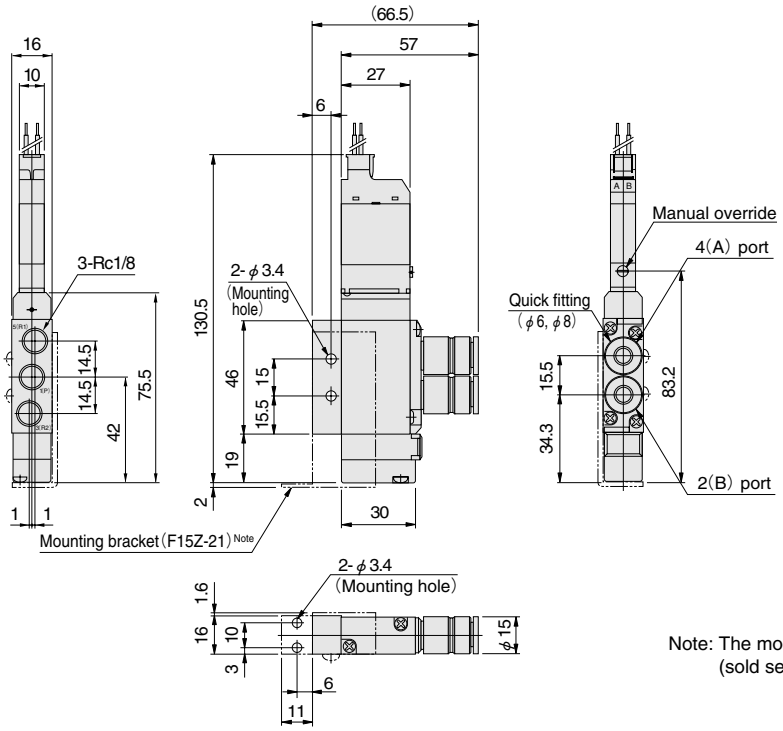
Note : For the serial transmission compatible manifold, add to the calculation the wiring block **-F201**(70g).

F15T

F15T Valve specification -F3-PS

With output port different size fitting block
With input port female thread block
S type plug connector

※For T0 type dimensions, see p.591.

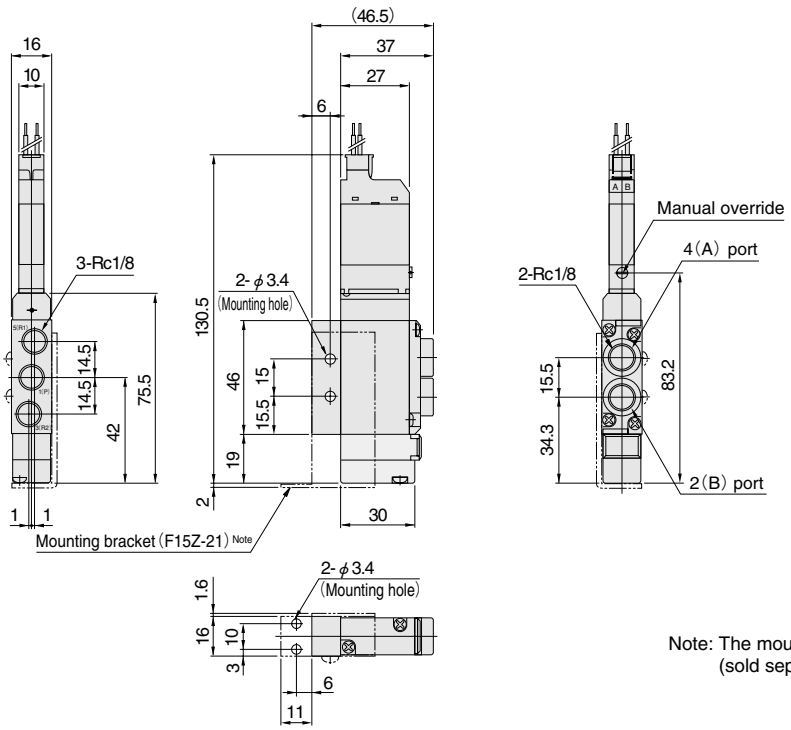


Note: The mounting bracket is additional part (sold separately).

F15T Valve specification -F4-PS

With output port female thread block
With input port female thread block
S type plug connector

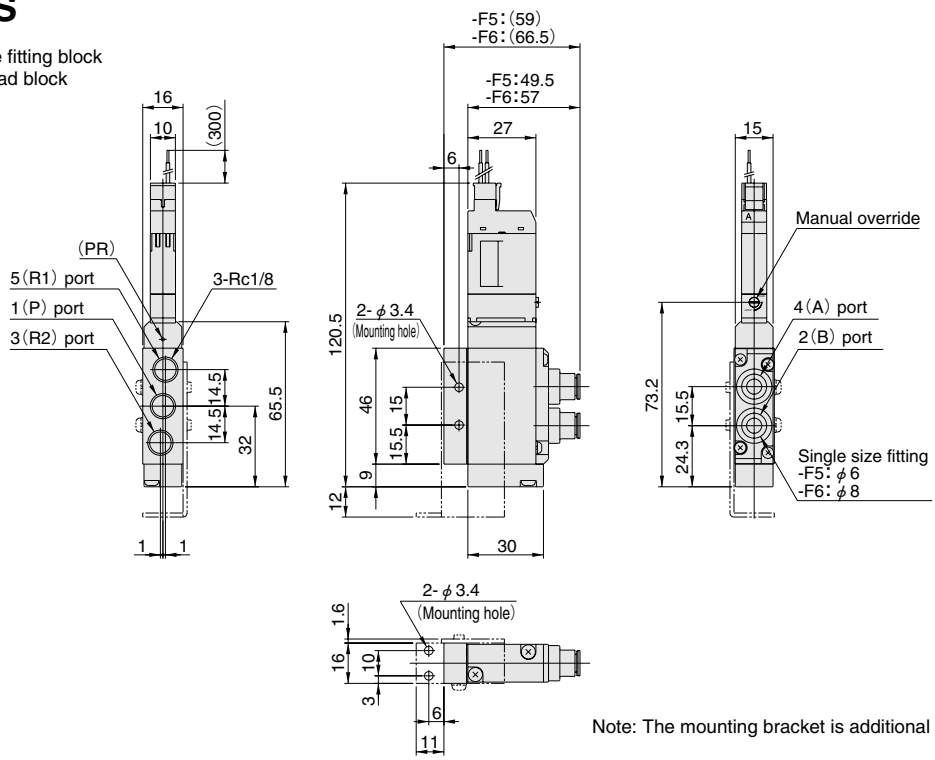
※For T0 type dimensions, see p.591.



Note: The mounting bracket is additional part (sold separately).

F15T0-F□-PS

With output port single size fitting block
With input port female thread block
S type plug connector



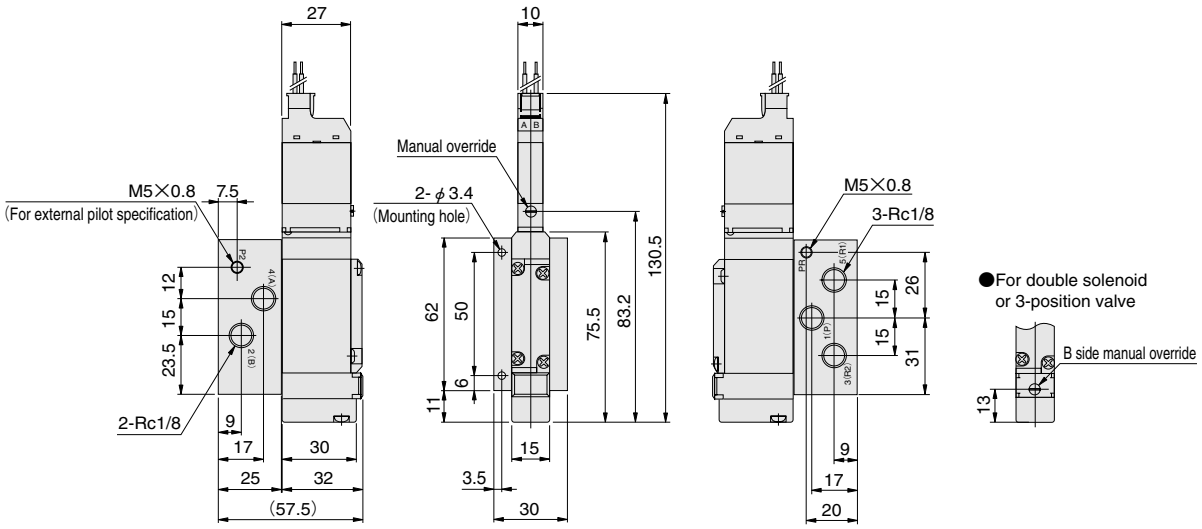
Note: The mounting bracket is additional part (sold separately).

F15 Series Dimensions of Single Valve Unit (Scale 1/3, Unit mm)

F15T

F15T Valve specification Operation method -A2-PS

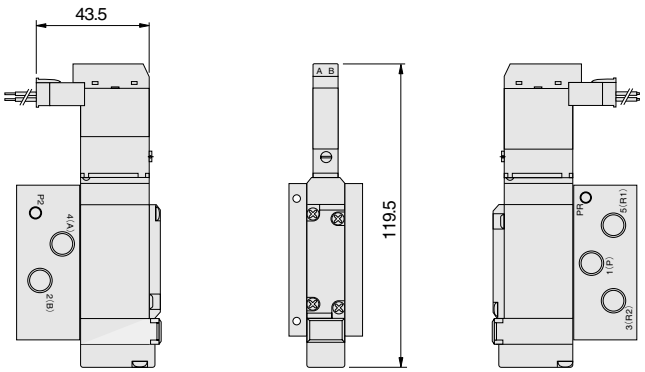
With A type sub-base
S type plug connector



Note : The T0 type is 10mm shorter for the total valve length (the end cover protrusion is 10mm shorter).

Option

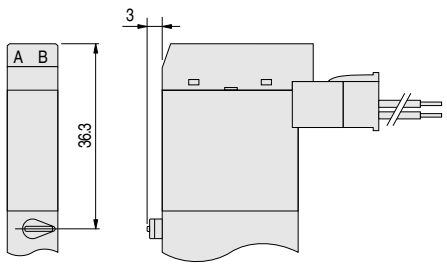
●L type plug connector : **-PL**



Note : The T0 type is 10mm shorter for the total valve length (the end cover protrusion is 10mm shorter).

Made to Order

●Manual lever override
(Scale 2/3, Unit mm)

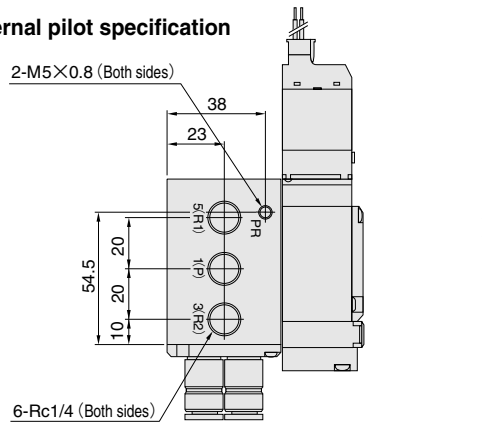


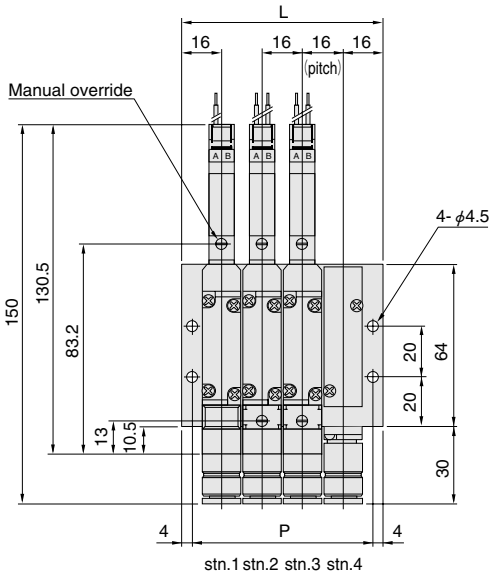
F15M Number of units A J/M Pilot specification (base piping type)

F15MA

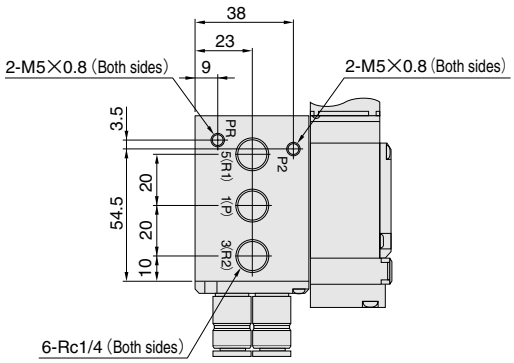
Monoblock manifold A type
With manifold output port different size fitting block
S type plug connector

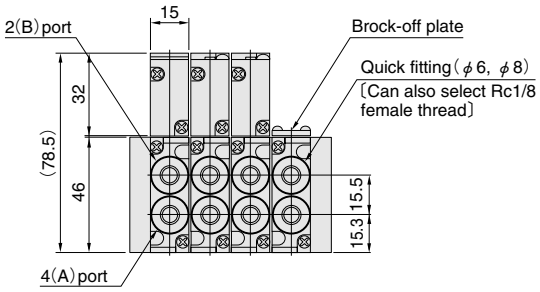
●Internal pilot specification





●External pilot specification



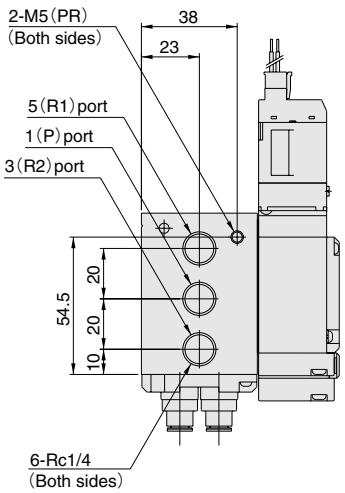


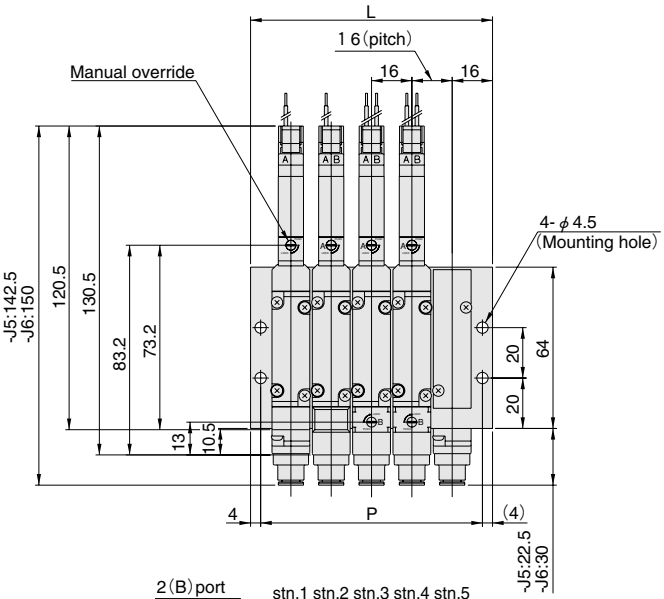
Unit dimensions

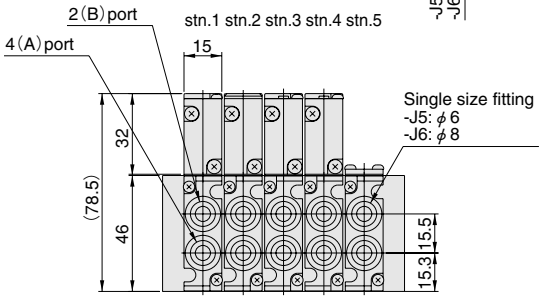
Number of units	L	P
2	48	40
3	64	56
4	80	72
5	96	88
6	112	104
7	128	120
8	144	136
9	160	152
10	176	168
11	192	184
12	208	200
13	224	216
14	240	232
15	256	248
16	272	264
17	288	280
18	304	296
19	320	312
20	336	328

F15M Number of units AL Pilot specification (base piping type)

Monoblock manifold A type
With manifold output port single size fitting block
S type plug connector







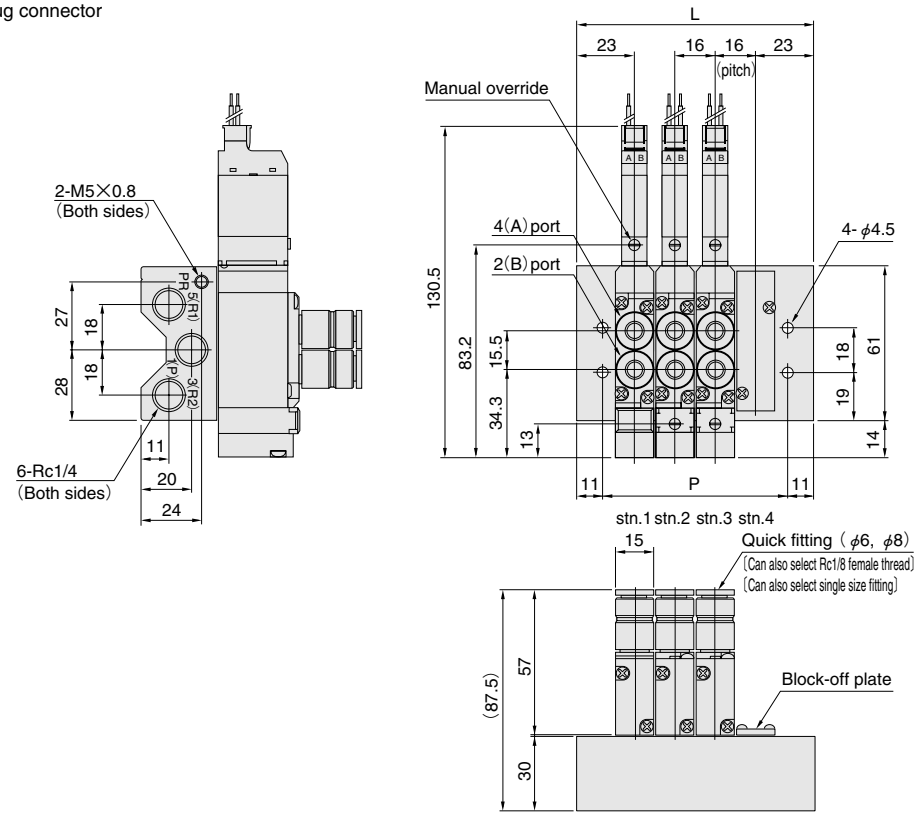
Unit dimensions

Number of units	L	P
2	48	40
3	64	56
4	80	72
5	96	88
6	112	104
7	128	120
8	144	136
9	160	152
10	176	168
11	192	184
12	208	200
13	224	216
14	240	232
15	256	248
16	272	264
17	288	280
18	304	296
19	320	312
20	336	328

F15M Number of units F (direct piping type)

F15MF

Monoblock manifold F type
With valve output port different size fitting block
S type plug connector



Unit dimensions

Number of units	L	P
2	62	40
3	78	56
4	94	72
5	110	88
6	126	104
7	142	120
8	158	136
9	174	152
10	190	168
11	206	184
12	222	200
13	238	216
14	254	232
15	270	248
16	286	264
17	302	280
18	318	296
19	334	312
20	350	328

Note : The T0 type is 10mm shorter for the total valve length (the end cover protrusion is 10mm shorter).

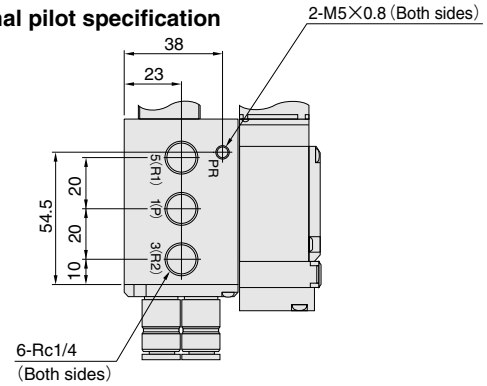
F15M [Number of units] AP $\frac{J}{M}$ [Pilot specification] (base piping type)

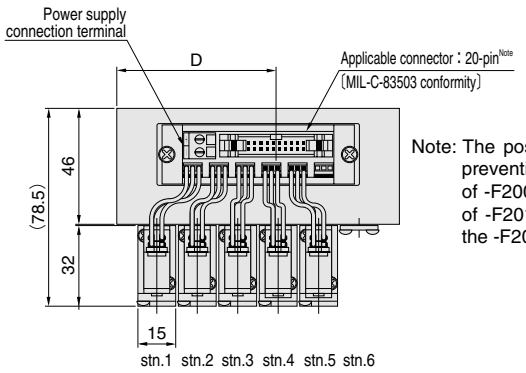
F15MAPJ

PC board manifold A type
With manifold output port different size fitting block

Note: The mounted valve example has -W wiring connection specification.
In wiring connection specification -S, the mounted valves are T0 or T1 type.

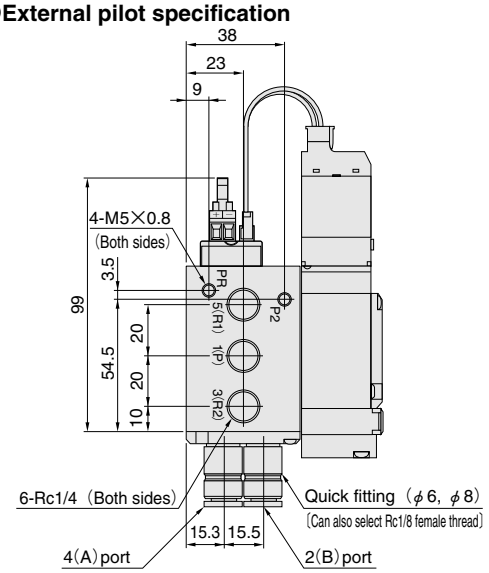
●Internal pilot specification

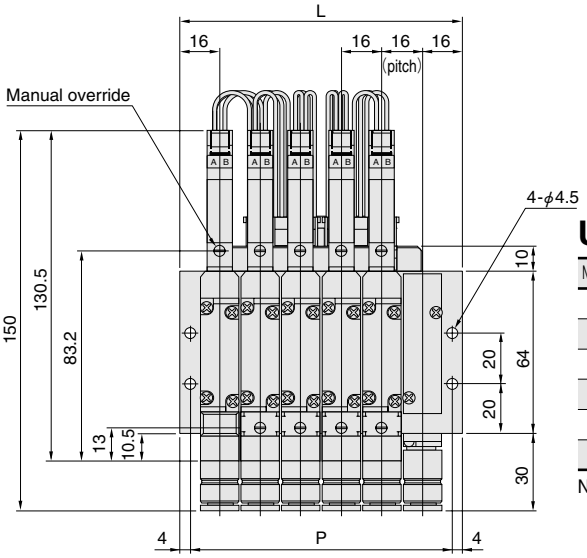




Note: The position of the groove preventing wrong insertions of -F200 is reversed to that of -F201. Illustration shows the -F201 case.

●External pilot specification





Unit dimensions

Number of units	L	P	D
6	112	104	63
8	144	136	68.5
10	176	168	68.5
12	208	200	79.5
14	240	232	90
16	272	264	90

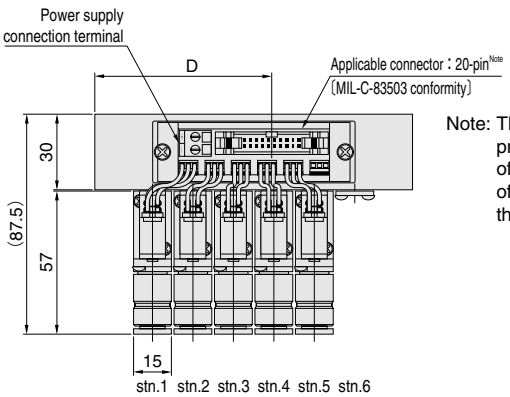
Note: Wiring connection specifications
For -S: 6, 8,10,12,14,16 units
For -W: 6, 8 units

F15M [Number of units] FP (direct piping type)

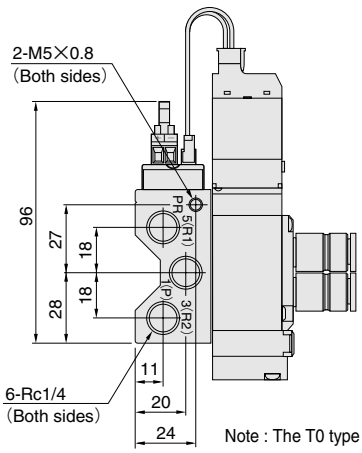
F15MFP

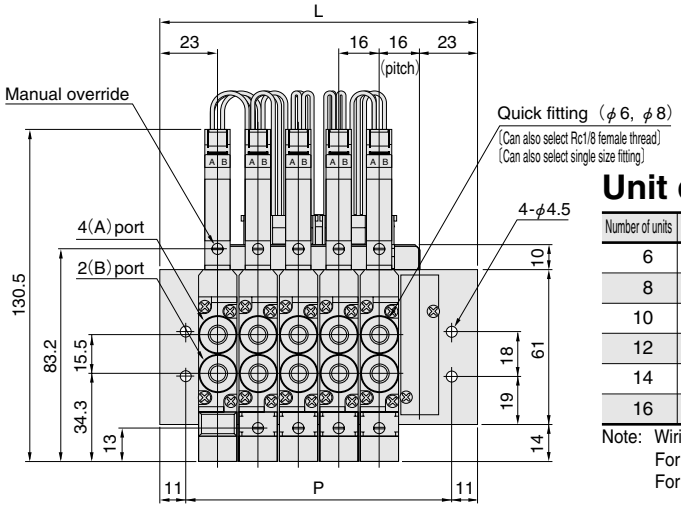
PC board manifold F type
With valve output port different size fitting block

Note: The mounted valve example has -W wiring connection specification.
In wiring connection specification -S, the mounted valves are T0 or T1 type.



Note: The position of the groove preventing wrong insertions of -F200 is reversed to that of -F201. Illustration shows the -F201 case.





Note : The T0 type is 10mm shorter for the total valve length (the end cover protrusion is 10mm shorter).

Unit dimensions

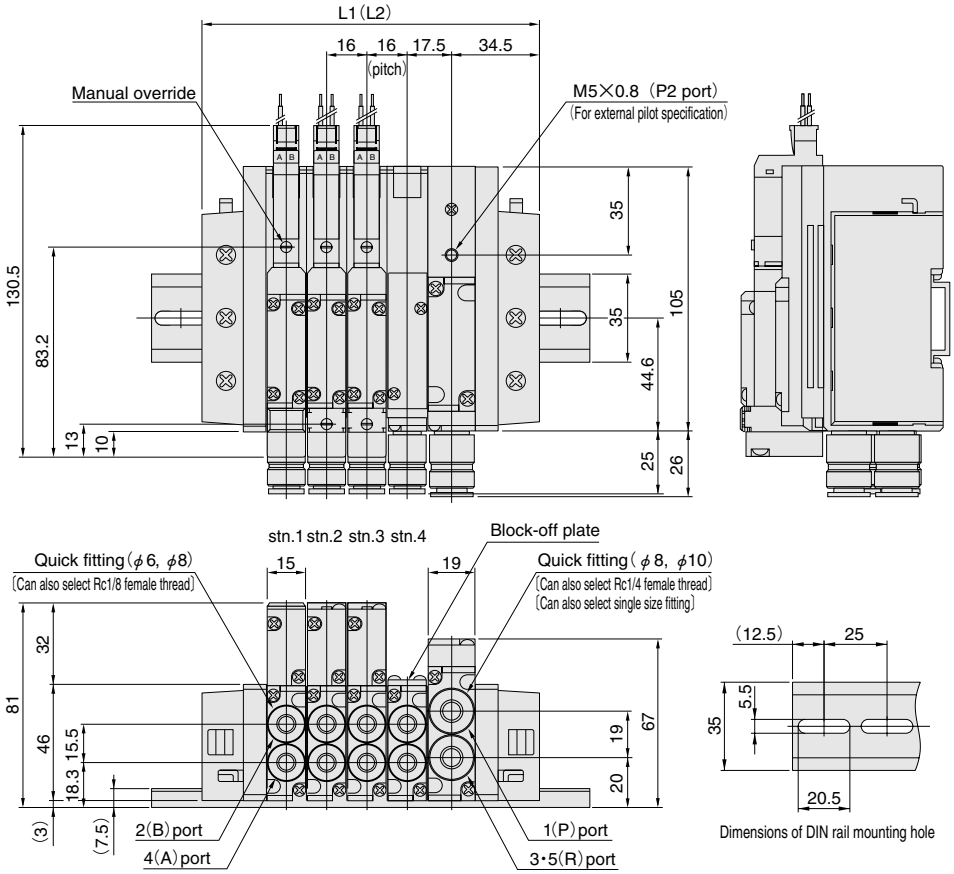
Number of units	L	P	D
6	126	104	70
8	158	136	75.5
10	190	168	75.5
12	222	200	86.5
14	254	232	92
16	286	264	92

Note: Wiring connection specifications
For -S: 6, 8,10,12,14,16 units
For -W: 6, 8 units

F15M Number of units N J/M Pilot specification (base piping type)

F15MNJ

With manifold output port different size fitting block
S type plug connector



Unit dimensions

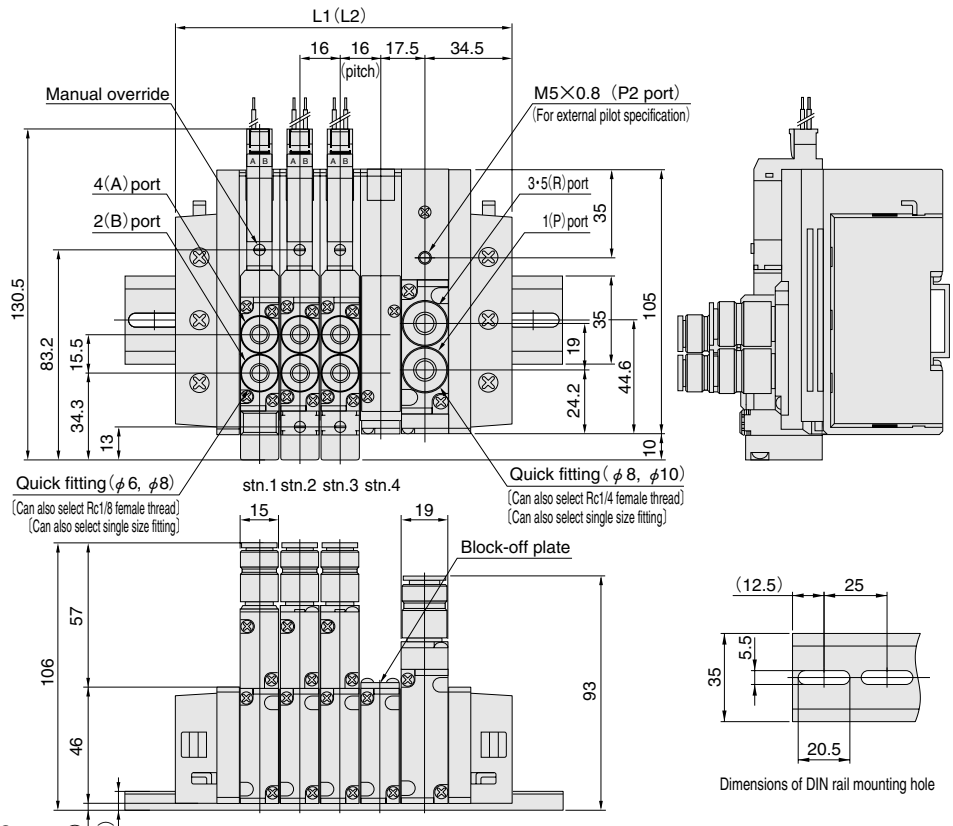
Number of units	L1	DIN rail length	L2 Note	DIN rail length Note
2	101	150	120	150
3	117	150	136	175
4	133	175	152	200
5	149	175	168	200
6	165	200	184	225
7	181	225	200	250
8	197	225	216	250
9	213	250	232	275
10	229	275	248	275
11	245	275	264	300
12	261	300	280	325
13	277	325	296	325
14	293	325	312	350
15	309	350	328	375
16	325	375	344	375
17	341	375	360	400
18	357	400	376	425
19	373	400	392	425
20	389	425	408	450

Note: When using two piping blocks.

F15M Number of units N Pilot specification (direct piping type)

F15MN

With valve output port different size fitting block
S type plug connector



Unit dimensions

Number of units	L1	DIN rail length	L2 Note	DIN rail length Note
2	101	150	120	150
3	117	150	136	175
4	133	175	152	200
5	149	175	168	200
6	165	200	184	225
7	181	225	200	250
8	197	225	216	250
9	213	250	232	275
10	229	275	248	275
11	245	275	264	300
12	261	300	280	325
13	277	325	296	325
14	293	325	312	350
15	309	350	328	375
16	325	375	344	375
17	341	375	360	400
18	357	400	376	425
19	373	400	392	425
20	389	425	408	450

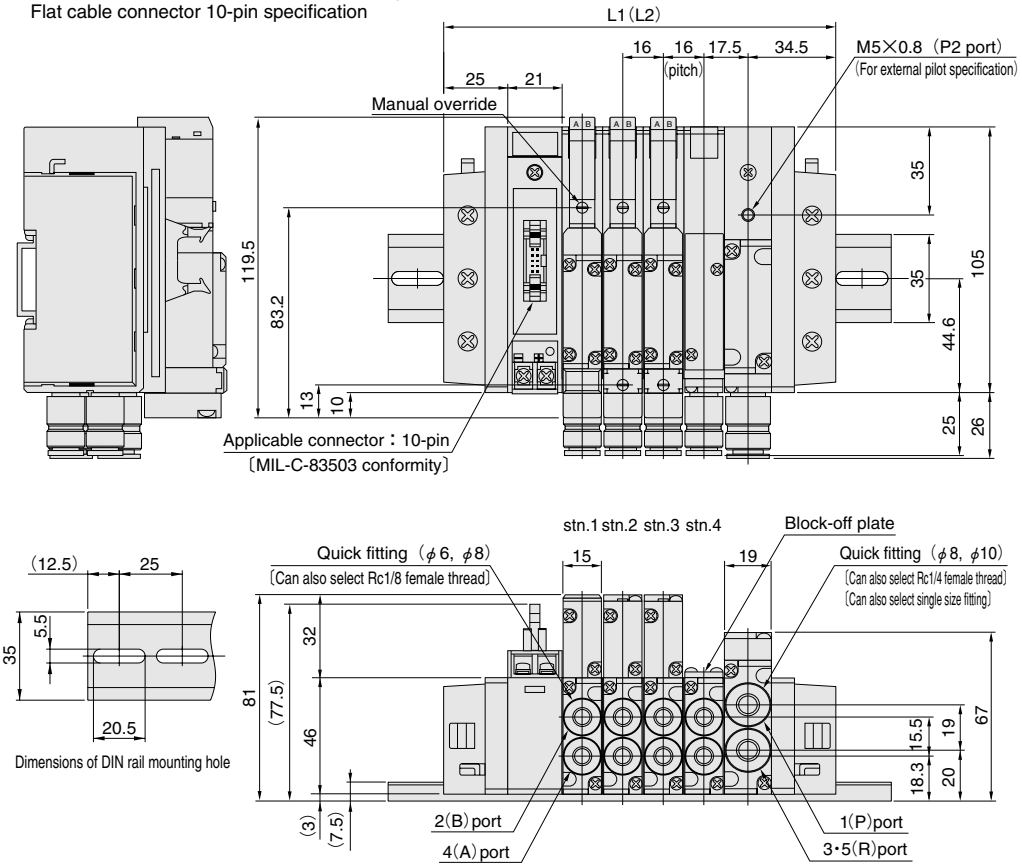
Note: When using two piping blocks.

Note : The T0 type is 10mm shorter for the total valve length (the end cover protrusion is 10mm shorter).

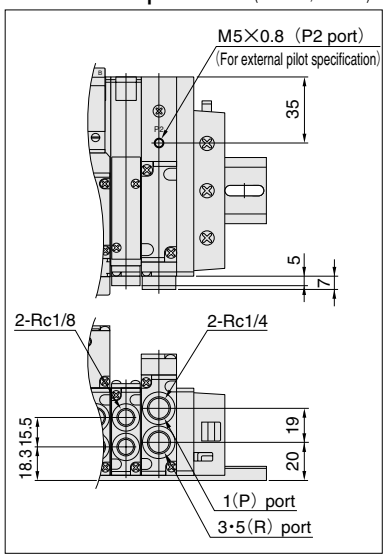
Combination of F15MPJ and F15-CONT

F15M [Number of units] P J/M [Pilot specification] (base piping type)

With manifold output port different size fitting block
Flat cable connector 10-pin specification



Female thread specification (Scale1/4, Unit mm)



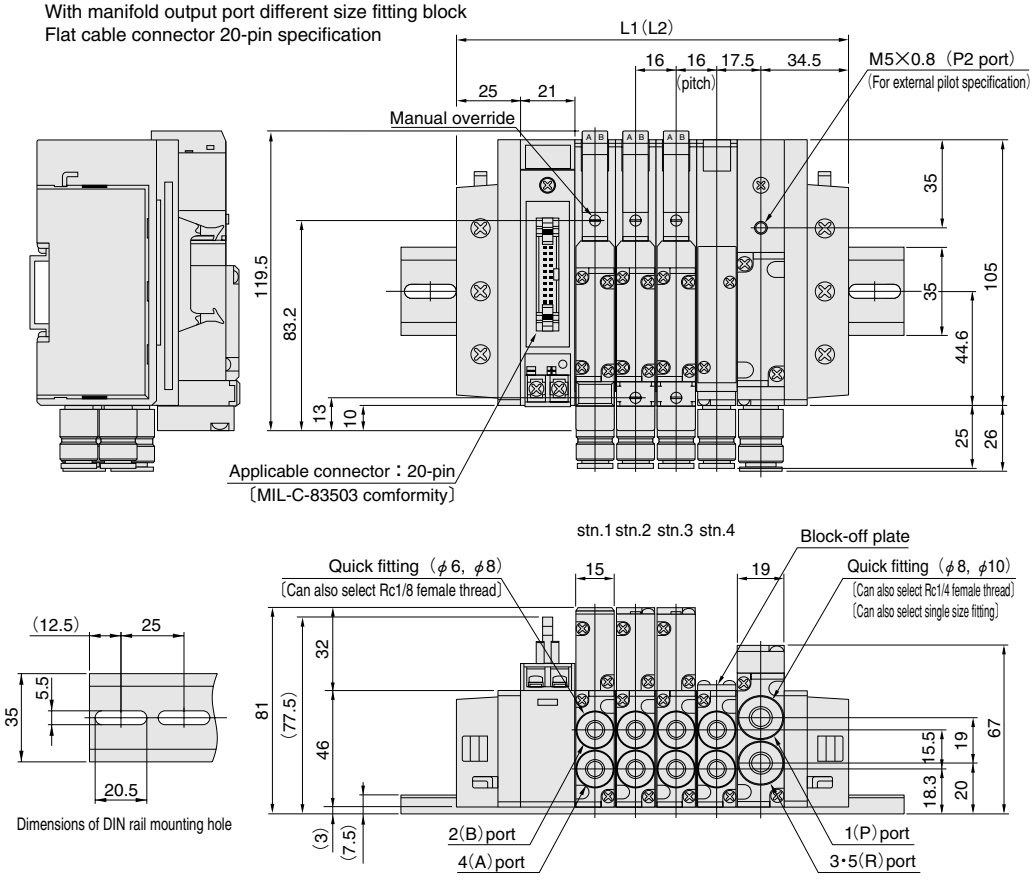
Unit dimensions

Number of units	L1	DIN rail length	L2 Note	DIN rail length Note
2	122	150	141	175
3	138	175	157	200
4	154	200	173	200
5	170	200	189	225
6	186	225	205	250
7	202	250	221	250
8	218	250	237	275

Note: When using two piping blocks.

F15M [Number of units] P J/M [Pilot specification] (base piping type)

With manifold output port different size fitting block
Flat cable connector 20-pin specification



Unit dimensions

Number of units	L1	DIN rail length	L2 Note	DIN rail length Note
2	122	150	141	175
3	138	175	157	200
4	154	200	173	200
5	170	200	189	225
6	186	225	205	250
7	202	250	221	250
8	218	250	237	275
9	234	275	253	300
10	250	300	269	300
11	266	300	285	325
12	282	325	301	350
13	298	325	317	350
14	314	350	333	375
15	330	375	349	375
16	346	375	365	400

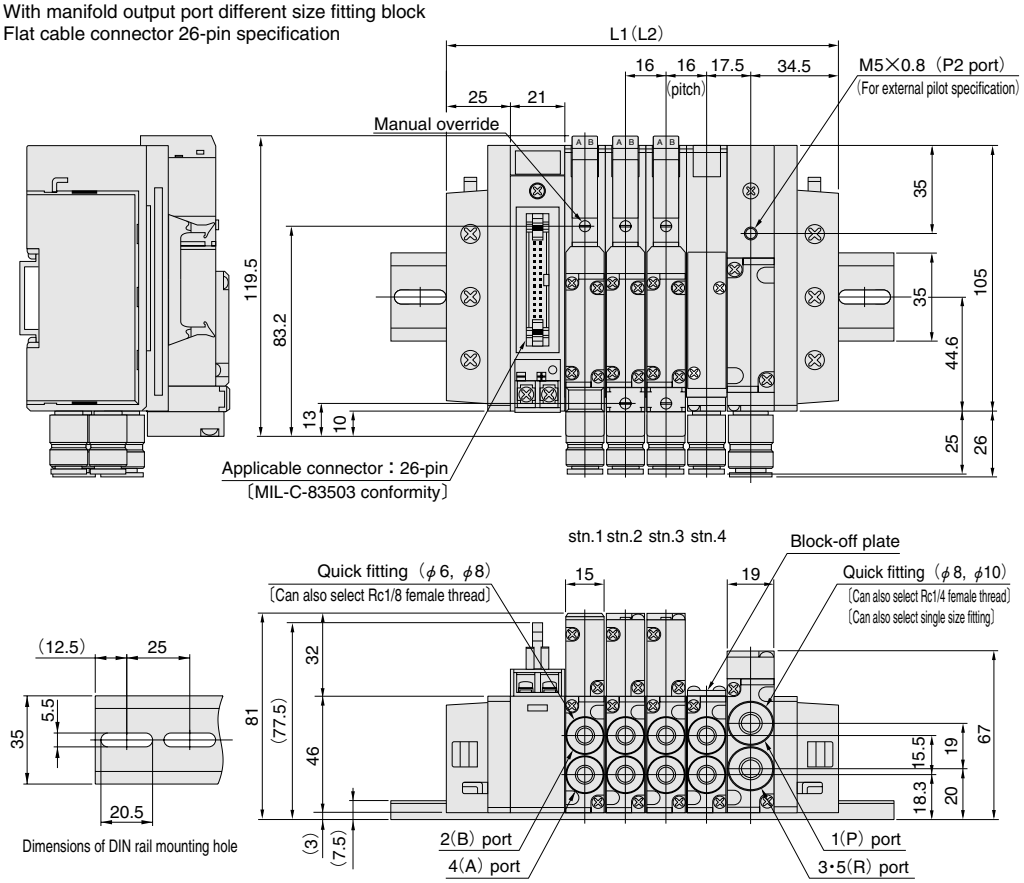
Note: When using two piping blocks.

F15 Series Dimensions of Split Manifold Plug-in Type (Scale 1/3, Unit mm)

CAD Combination of F15MPJ and F15-CONT

F15M [Number of units] P J/M [Pilot specification] (base piping type)

With manifold output port different size fitting block
Flat cable connector 26-pin specification



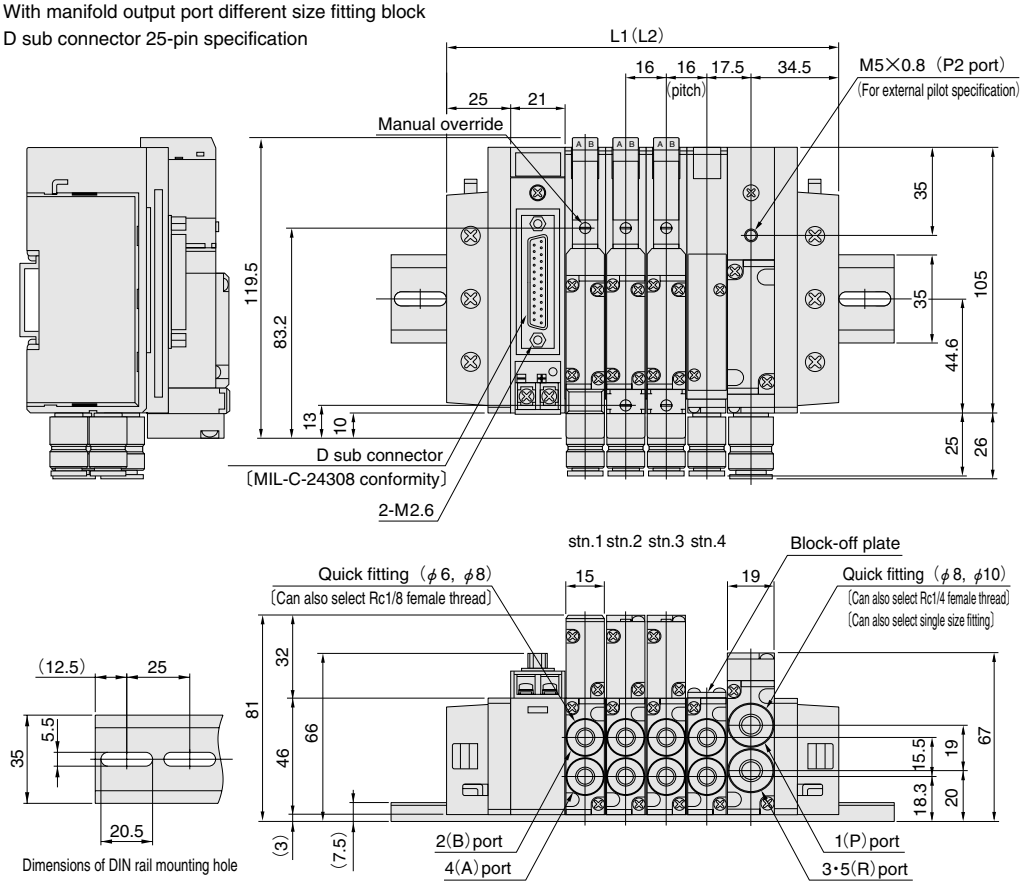
Unit dimensions

Number of units	L1	DIN rail length	L2 Note	DIN rail length Note
2	122	150	141	175
3	138	175	157	200
4	154	200	173	200
5	170	200	189	225
6	186	225	205	250
7	202	250	221	250
8	218	250	237	275
9	234	275	253	300
10	250	300	269	300
11	266	300	285	325
12	282	325	301	350
13	298	325	317	350
14	314	350	333	375
15	330	375	349	375
16	346	375	365	400
17	362	400	381	425
18	378	425	397	425
19	394	425	413	450
20	410	450	429	475

Note: When using two piping blocks.

F15M [Number of units] P J/M [Pilot specification] (base piping type)

With manifold output port different size fitting block
D sub connector 25-pin specification



Unit dimensions

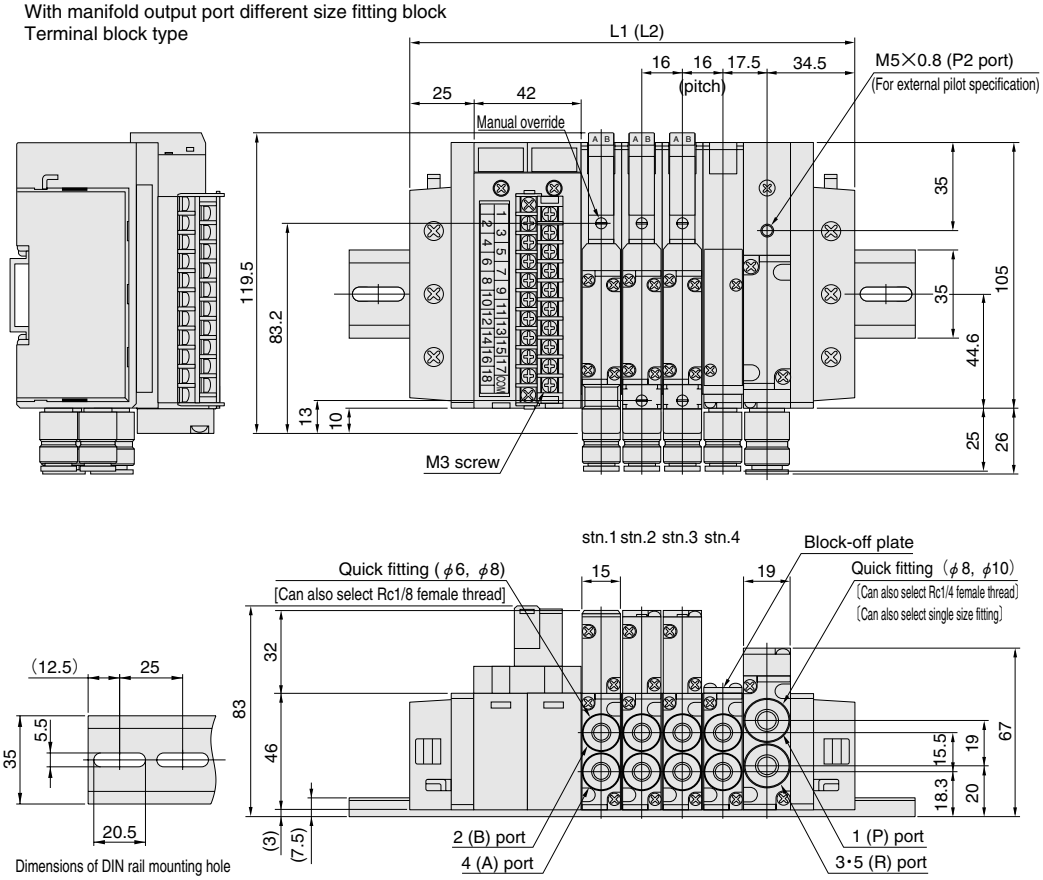
Number of units	L1	DIN rail length	L2 Note	DIN rail length Note
2	122	150	141	175
3	138	175	157	200
4	154	200	173	200
5	170	200	189	225
6	186	225	205	250
7	202	250	221	250
8	218	250	237	275
9	234	275	253	300
10	250	300	269	300
11	266	300	285	325
12	282	325	301	350
13	298	325	317	350
14	314	350	333	375
15	330	375	349	375
16	346	375	365	400
17	362	400	381	425
18	378	425	397	425
19	394	425	413	450
20	410	450	429	475

Note: When using two piping blocks.

F15M [Number of units] P [J/M] [Pilot specification] (base piping type)

CAD Combination of F15MPJ and F15-CONT

With manifold output port different size fitting block
Terminal block type



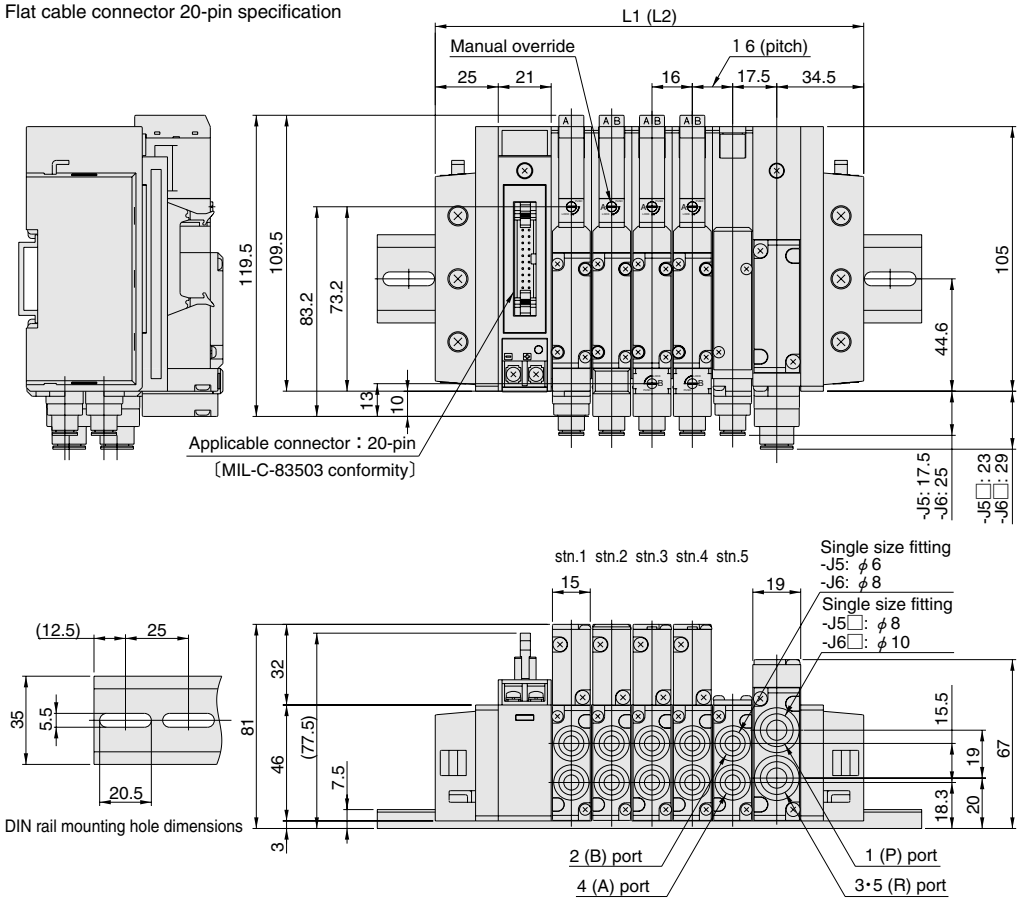
Unit dimensions

Number of units	L1	DIN rail length	L2 Note	DIN rail length Note
2	143	175	162	200
3	159	200	178	225
4	175	225	194	225
5	191	225	210	250
6	207	250	226	275
7	223	250	242	275
8	239	275	258	300
9	255	300	274	300
10	271	300	290	325
11	287	325	306	350
12	303	350	322	350
13	319	350	338	375
14	335	375	354	400
15	351	400	370	400
16	367	400	386	425
17	383	425	402	450
18	399	425	418	450

Note: When using two piping blocks.

F15M [Number of units] PL [Pilot specification] (base piping type)

With manifold output port single size fitting block
Flat cable connector 20-pin specification



Unit dimensions

Number of units	L1	DIN rail length	L2 Note	DIN rail length Note
2	122	150	141	175
3	138	175	157	200
4	154	200	173	200
5	170	200	189	225
6	186	225	205	250
7	202	250	221	250
8	218	250	237	275
9	234	275	253	300
10	250	300	269	300
11	266	300	285	325
12	282	325	301	350
13	298	325	317	350
14	314	350	333	375
15	330	375	349	375
16	346	375	365	400

Note: When using two piping blocks.

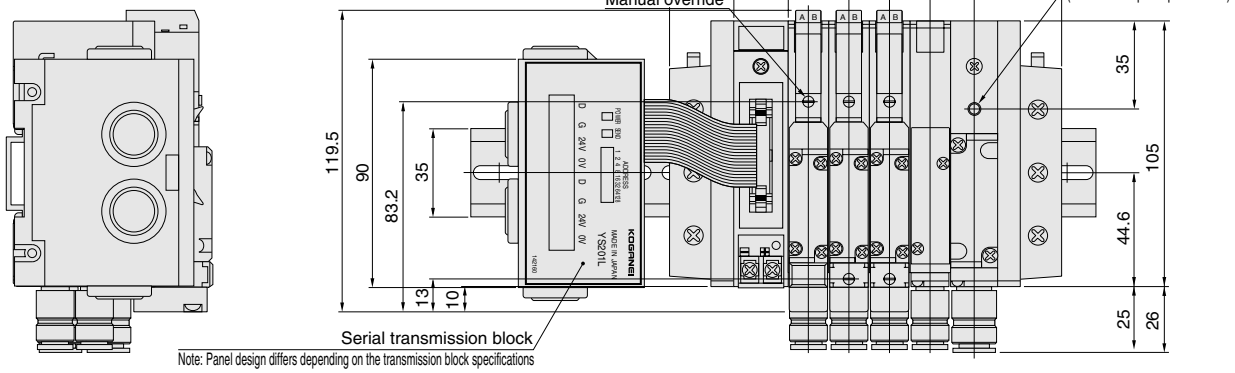
F15 Series Dimensions of Serial Transmission Compatible Manifold (Scale 1/3, Unit mm)

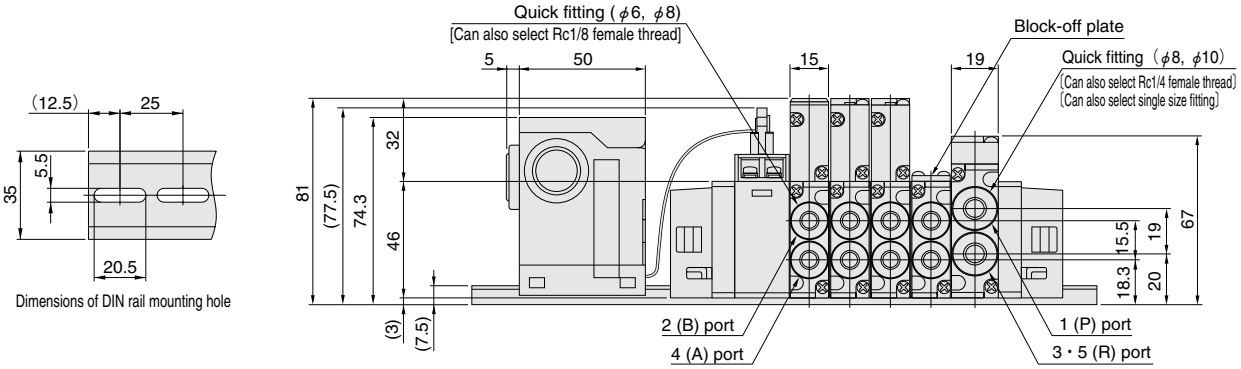
※For dimensions of manifold for Omron CompoBus / D, see p. 601.

F15M Number of units S J M Pilot specification (base piping type)

F15MSJ

With manifold output port different size fitting block

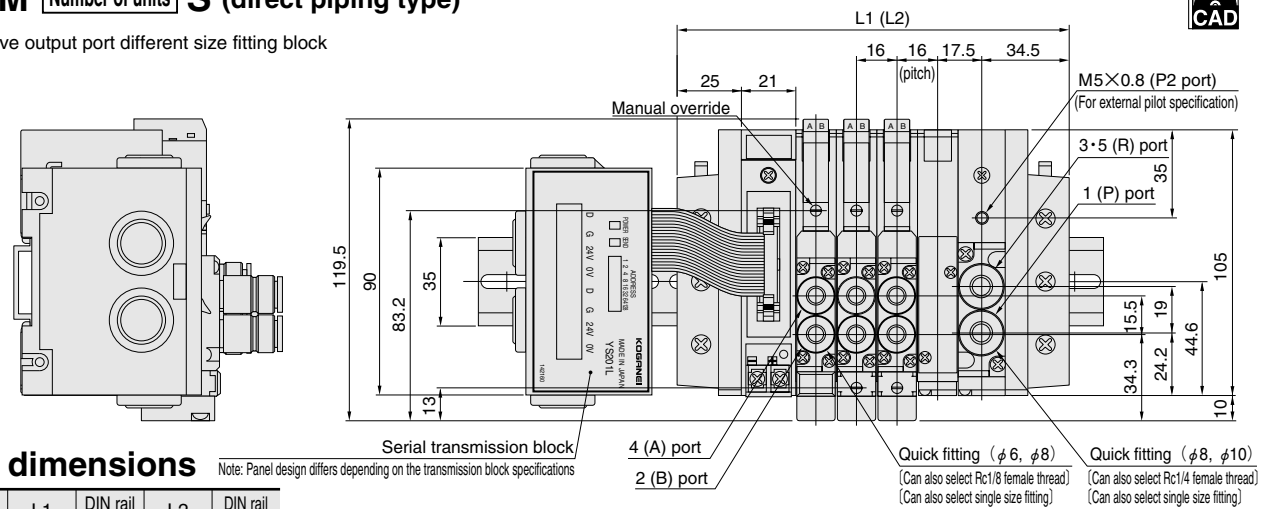




F15M Number of units S (direct piping type)

F15MS

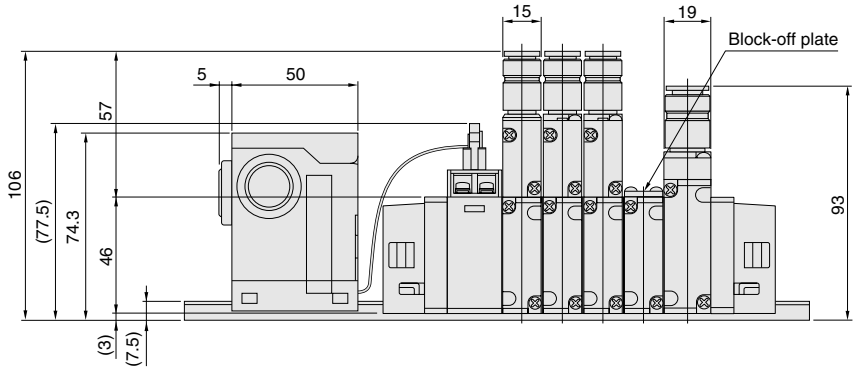
With valve output port different size fitting block



Unit dimensions

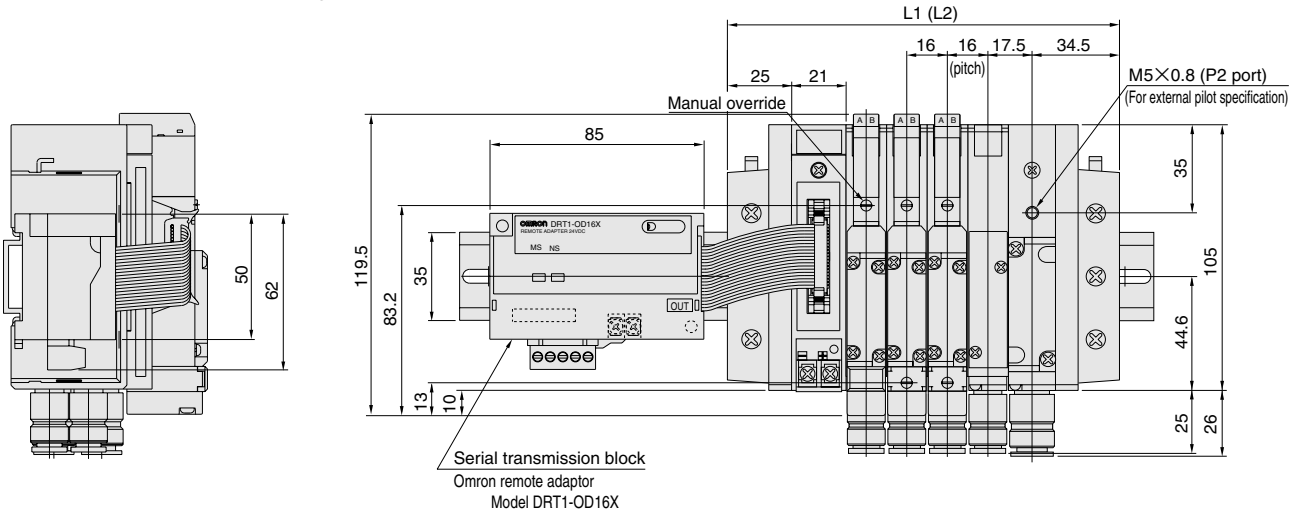
Number of units	L1	DIN rail length	L2 Note	DIN rail length Note
2	122	225	141	225
3	138	225	157	250
4	154	250	173	275
5	170	275	189	275
6	186	275	205	300
7	202	300	221	325
8	218	300	237	325
9	234	325	253	350
10	250	350	269	375
11	266	350	285	375
12	282	375	301	400
13	298	400	317	400
14	314	400	333	425
15	330	425	349	450
16	346	450	365	450

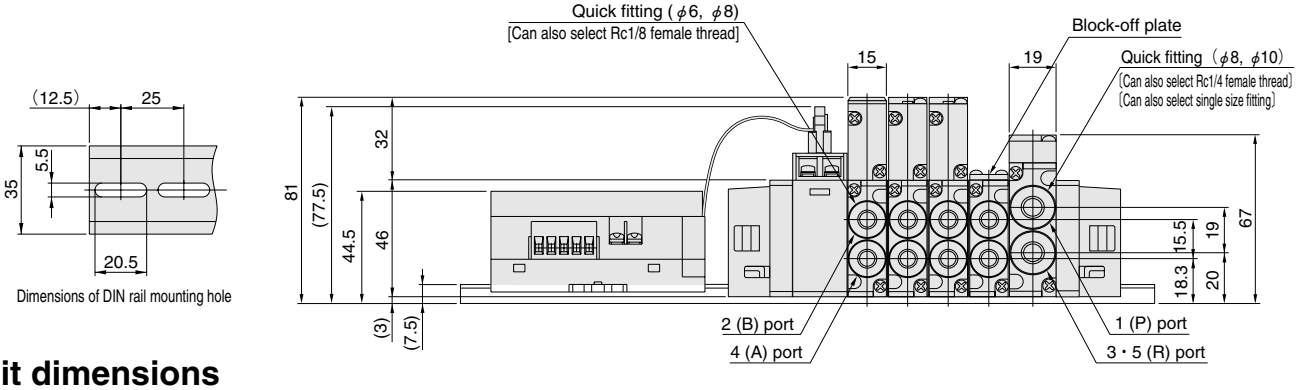
Note: When using two piping blocks.



F15M Number of units S J/M Pilot specification (base piping type)

With manifold output port different size fitting block





Dimensions of DIN rail mounting hole

Unit dimensions

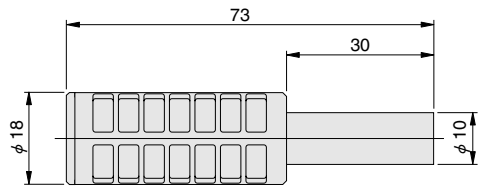
Number of units	L1	DIN rail length	L2 Note	DIN rail length Note
2	122	250	141	275
3	138	250	157	300
4	154	275	173	300
5	170	300	189	325
6	186	325	205	350
7	202	325	221	350
8	218	350	237	375
9	234	375	253	375
10	250	375	269	400
11	266	400	285	425
12	282	425	301	425
13	298	425	317	450
14	314	450	333	475
15	330	450	349	475
16	346	475	365	475

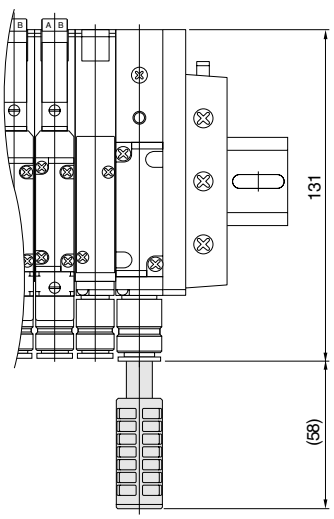
Note: When using two piping blocks.

Additional Parts (Sold Separately)

●Muffler : **KM-J10** [For both plug-in and non-plug-in type]

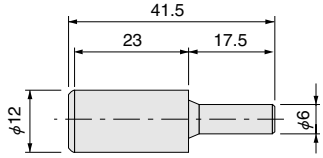
(Scale 2/3, Unit mm)





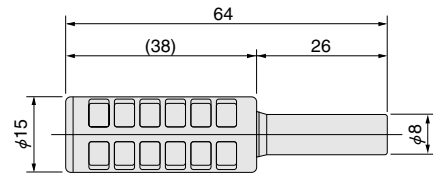
●Muffler : **KM-J6** [For Individual exhaust spacer only]

(Scale 2/3, Unit mm)



●Muffler : **KM-J8** [For Individual exhaust spacer only]

(Scale 2/3, Unit mm)



SOLENOID VALVES F18 SERIES

INDEX

Specifications ——— 604

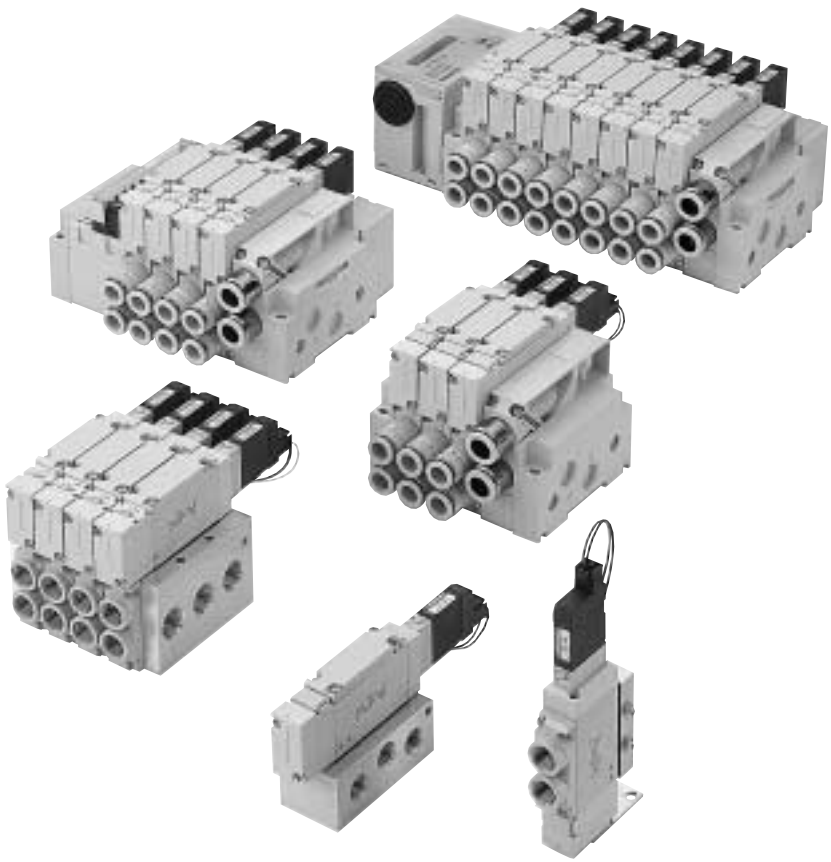
Dimensions of Single Valve Unit ——— 608

Dimensions of Monoblock Manifold ——— 611

Dimensions of Split Manifold Non-Plug-in Type —— 613

Dimensions of Split Manifold Plug-in Type ——— 614

Dimensions of Serial Transmission Compatible Manifold ——— 617



F18 SERIES SPECIFICATIONS

Specifications

Basic Models and Functions

Item \ Basic model	F18T0	F18T1 F18T2	F18T3 F18T4 F18T5
Number of positions	2 positions		3 positions
Number of ports	5		
Valve function	For single solenoid only	For both single and double solenoid	All port block, ABR connection, PAB connection

Remark: For the optional specifications and order code, see p.532 ~ 556.

Specifications

Item \ Basic model		F18T0 F18T1 F18T2	F18T3 F18T4 F18T5	F18T0G F18T1G F18T2G	F18T3G F18T4G F18T5G	F18T0V F18T1V F18T2V	F18T3V
Media		Air					
Operation method		Internal pilot type		External pilot type (for positive pressure)		External pilot type (for vacuum)	
Effective area〔CV〕Note1 mm²		18〔1〕					
Port size Note2		Fitting for both ϕ8 and ϕ10, Rc1/4		M5×0.8, fitting for both ϕ8 and ϕ10, Rc1/4			
Lubrication		Not required					
Operating pressure range	Main valve	0.15～0.7MPa {1.5～7.1kgf/cm²}		0～0.7MPa {0～7.1kgf/cm²} Note3		0.15MPa～−100kPa {1.5kgf/cm²～−750.1mmHg}	
	External pilot	——		0.2～0.7MPa {2～7.1kgf/cm²} Note3		0.2～0.7MPa {2～7.1kgf/cm²}	
Proof pressure MPa {kgf/cm²}		1.05 {10.7}					
Response time Note4 ms ON/OFF time	DC12V, DC24V	Max. 25／35	Max. 15／70	Max. 25／35	Max. 15／70	Max. 25／35	Max. 15／70
	AC100V	Max.25／35	Max. 15／70	Max. 25／35	Max. 15／70	Max. 25／35	Max. 15／70
Maximum operating frequency Hz		5					
Minimum time to energize for self holding Note5 ms		50	——	50	——	50	——
Operating temperature range (atmosphere and media) ℃		5～50					
Shock resistance m/s² {G}		1373 {140.0} (Axial direction 294.2 {30.0})	294.2 {30.0}	1373 {140.0} (Axial direction 294.2 {30.0})	294.2 {30.0}	1373 {140.0} (Axial direction 294.2 {30.0})	294.2 {30.0}
Mounting direction		Any					

Notes: 1. For details, see the effective area on p.605.
2. For details, see the port size on p.605.
3. When the main valve pressure is 0.2~0.7MPa, set the external pilot pressure to the main valve pressure or higher, and to 0.7MPa or less.
4. Values when air pressure is 0.5MPa. For switching phase timing, add a maximum of 5 ms to the response time of AC specification. The values for 2-position valves are when used as a single solenoid, and the values for 3-position valves are those switching from the neutral state of all port block.
5. When used as a double solenoid valve. Excludes **T0**.

Remark: Conversion to psi., 1MPa=145psi., 1kgf/cm²=14.2psi., e.g. 0.15MPa=21.8psi.

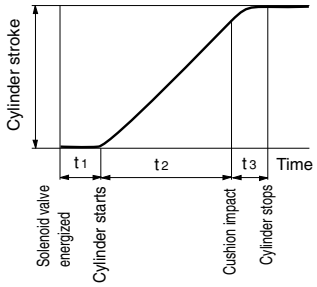
Solenoid Specifications

Item \ Rated voltage		DC12V	DC24V	AC100V	
Voltage range V		10.8～13.2 (12±10%)	21.6～26.4 (24±10%)	90～110 (100±10%)	
Rated frequency Hz		——	——	50	60
Current mA (r.m.s)	Starting	——	——	10Note1	10Note1
(When rated voltage is applied)	Energizing	76	38	10Note1	10Note1
Power consumption W		0.9	0.9	1.0VA	
Allowable leakage current mA		4.0	2.0	2.0	
Type of insulation		Type B			
Insulation resistance Note 2 MΩ		Min.100			
LED indicator color Note3		SA：Red, SB：Green	SA：Red, SB：Green	SA：Red, SB：Green	
Surge suppression (as standard)		Flywheel diode		Bridge diode	

Notes: 1. Since the AC types have built-in bridge diodes, the starting current and energizing current value are virtually the same.
2. Value at DC500V megger.
3. The indicator color for **T0** is red only.

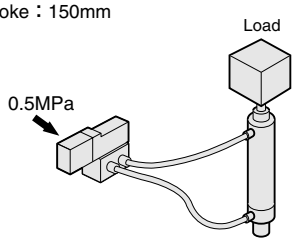
Cylinder Operating Speed

How to obtain the cylinder speed

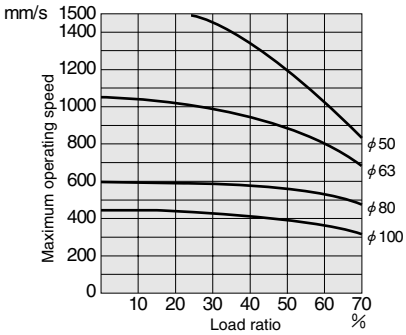


Measuring conditions

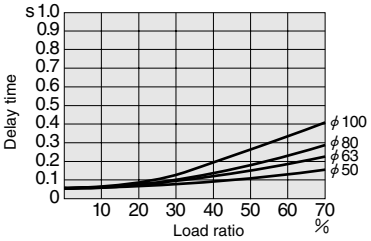
- Air pressure : 0.5MPa {5.1kgf/cm²}
- Piping (outer diameter × inner diameter × length) : φ10 × φ7.5 × 1000mm
- Fitting : Quick fitting TS10-02
- Load ratio = $\frac{\text{Load}}{\text{Cylinder theoretical thrust}}$ (%)
- Cylinder stroke : 150mm



Maximum operating speed

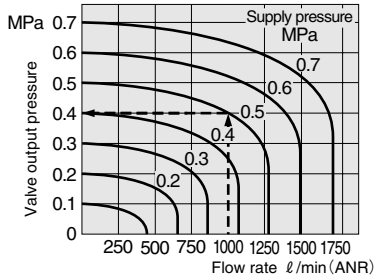


Delay time



Note: Delay time may vary according to the cylinder stroke.

Flow Rate



How to read the graph

If supply pressure is 0.5MPa and flow rate is 1000 ℓ/min (ANR), the valve output pressure becomes 0.4MPa.

Port Size

●F18 Series

Description/Piping specification		PR	P2	A, B	P, R
With sub-base		M5×0.8	M5×0.8	Rc1/4	Rc1/4
Single unit	With female thread block	—	—	Rc1/4	Rc1/4
	With different size fitting block	—	—	For both φ8 and φ10	Rc1/4
	With single size fitting block	—	—	φ8 or φ10	Rc1/4
Manifold	Monoblock type with female thread block	M5×0.8	M5×0.8	Rc1/4	Rc3/8
	Monoblock type with fitting block	M5×0.8	M5×0.8	For both φ8 and φ10	Rc3/8
	Monoblock type with single size fitting block	M5×0.8	M5×0.8	φ8 or φ10	Rc3/8
	Split type with female thread block, or serial transmission type with female thread block	—	M5×0.8	Rc1/4	Rc3/8 φ12
	Split type with fitting block, or serial transmission type with fitting block	—	M5×0.8	For both φ8 and φ10	
	Split type with single size fitting block, or serial transmission type with single size fitting block	—	M5×0.8	φ8 or φ10	

Effective Area〔Cv〕

●When using as a single unit

mm²

Basic model	Effective area〔Cv〕
F18T0□-F5 **F18T1□-F5** **F18T2□-F5** **F18T3□-F5** **F18T4□-F5** **F18T5□-F5**	15.0〔0.83〕
F18T0□-F6 **F18T1□-F6** **F18T2□-F6** **F18T3□-F6** **F18T4□-F6** **F18T5□-F6**	16.5〔0.91〕

●When mounted on a manifold

mm²

Valve type \ Manifold model		F18M□F	F18M□A	F18M□N
F18T0□ **F18T1□** **F18T2□** **F18T3□** **F18T4□** **F18T5□**	Output port Fitting for both φ8 and φ10, Female thread	17.0〔0.94〕	16.0〔0.89〕	18.0〔1〕
	Output port φ8 fitting	15.0〔0.83〕	14.7〔0.82〕	16.7〔0.93〕
	Output port φ10 fitting	16.5〔0.91〕	15.0〔0.83〕	17.0〔0.94〕

Caution: When you use the individual air supply spacer or the individual air exhaust spacer, effective area decreases about 30%.

Mass

Single Valve Unit Mass

g

F18T□□	F18T□□-A1	F18T□□-A2	F18T□□-FJ	F18T□□-FJ5	F18T□□-FJ6
Output section None	Output section With plate	Output section With plate	Output section With different size fitting block	Output section With ϕ 8 fitting block	Output section With ϕ 10 fitting block
Input section None	Input section None	Input section With A type sub-base	Input section None	Input section None	Input section None
118	144	308	159	184	193

g

F18T□□-FM	F18T□□-F3	F18T□□-F4	F18T□□-F5	F18T□□-F6
Output section With female thread block	Output section With different size fitting block	Output section With female thread block	Output section With ϕ 8 fitting block	Output section With ϕ 10 fitting block
Input section None	Input section With female thread block	Input section With female thread block	Input section With female thread block	Input section With female thread block
147	184	172	209	218

Basic Type **F18T0** is 15g less than the mass shown above.

Monoblock Manifold Mass (included single valve unit)

g

Monoblock manifold	Mass calculation of each unit			
	A, B port output specifications			
	Female thread	Different size fitting block	ϕ 8 fitting block	ϕ 10 fitting block
A type	(334×n)+165	(344×n)+165	(369×n)+165	(378×n)+165
F type	(222×n)+70	(232×n)+70	(257×n)+70	(266×n)+70

Calculation example : **F18M8AM**

stn.1～stn.8 F18T1-A1-PS DC24V

(334×8)+165=2837g

When mounting a block-off plate, calculate the female thread specifications at 110g less than the above calculation results per unit, while the differing size fitting specifications are 120g, ϕ 8 fitting specifications 145g, and the ϕ 10 fitting specifications 154g less.

When mounting the **F18T0** specifications, subtract 15g per unit from the above calculation results.

Mass of Split Manifold and Serial Transmission Compatible Type

The split manifold has the same mass as that for the combination of valve output and manifold output specifications. The mass can only change with selection of the type of input/output block.

Split Manifold Non-Plug-in Type (included single valve unit)

g

Non-plug-in type	Mass calculation of each unit			
	A, B port output specifications			
	Female thread	Different size fitting block	ϕ 8 fitting block	ϕ 10 fitting block
	(241×n)+234	(251×n)+234	(276×n)+234	(285×n)+234

g

Additional mass	
Piping block specification	
Female thread	Fitting block
164	189

Calculation example : **F18M8N-MR**

stn.1～stn.8 F18T1-A1-PS DC24V

(241×8)+234+164=2326g

When mounting a block-off plate, calculate the female thread specifications at 110g less than the above calculation results per unit, while the differing size fitting specifications are 120g, ϕ 8 fitting specifications 145g, and the ϕ 10 fitting specifications 154g less.

When mounting the **F18T0** specifications, subtract 15g per unit from the above calculation results.

Mass

Mass of Split Manifold Plug-in Type/ Serial Transmission Compatible Type (included single valve unit)

g

Plug-in type Serial transmission compatible type	Mass calculation of each unit			
	A, B port output specifications			
	Female thread	Different size fitting block	ϕ6 fitting block	ϕ8 fitting block
	(243×n)+238	(253×n)+238	(278×n)+238	(287×n)+238

g

Additional mass	
Piping block specification	
Female thread	Fitting block
174	199

g

Additional mass			
Wiring block specification			
-F100, -F101	**-F200, -F201, -F260**	**-D250, -D251**	**-T200**
69	71	72	154

g

Transmission block mass	
Serial transmission block[Note]	
YS□□	**YS391**
160	110

Calculation example : **F18M8PM-MR-F201 DC24V**
stn.1～stn.8 F18T1-A1 DC24V
(243×8)+238+174+71=2427g
When mounting a block-off plate, calculate the female thread specifications at 110g less than the above calculation results per unit, while differing size fitting specifications are 120g, ϕ8 fitting specifications 145g, and the ϕ10 fitting specifications 154g less.
When mounting the **F18T0** specifications, subtract 15g per unit from the above calculation results.

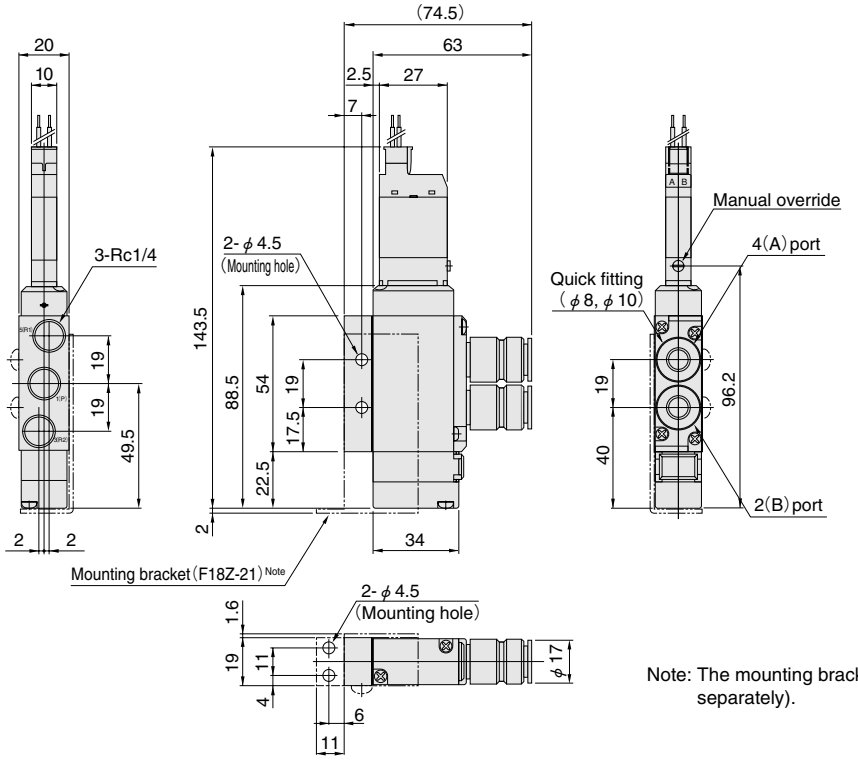
Note : For the serial transmission compatible manifold, add to the calculation the wiring block **YS391-F201**(71g).

F18T

F18T Valve specification -F3-PS

With output port different size fitting block
With input port female thread block
S type plug connector

※For T0 type dimensions, see p.609.

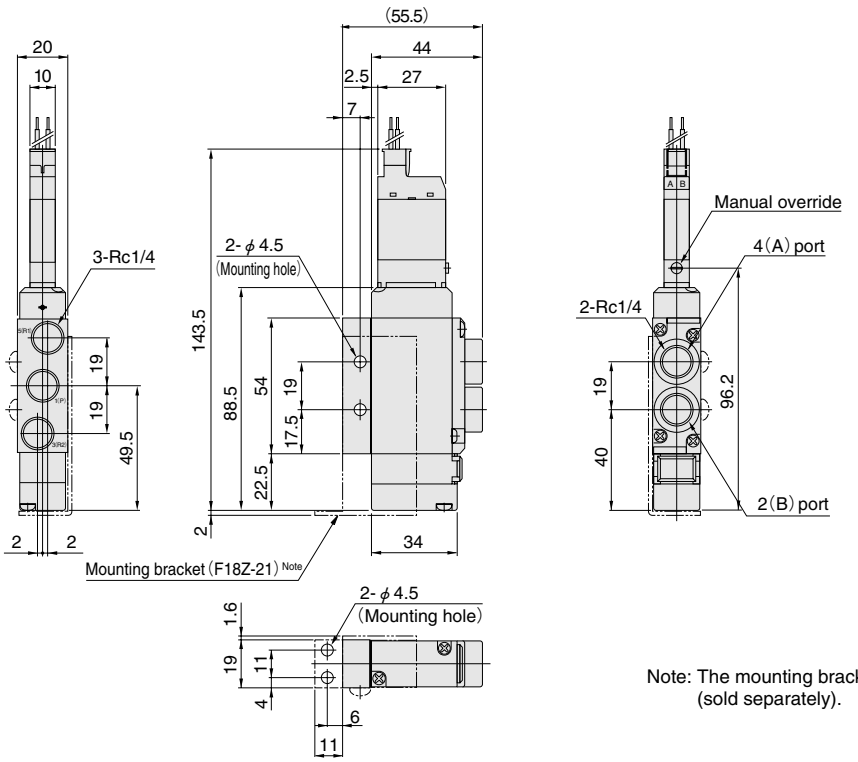


Note: The mounting bracket is additional part (sold separately).

F18T Valve specification -F4-PS

With output port female thread block
With input port female thread block
S type plug connector

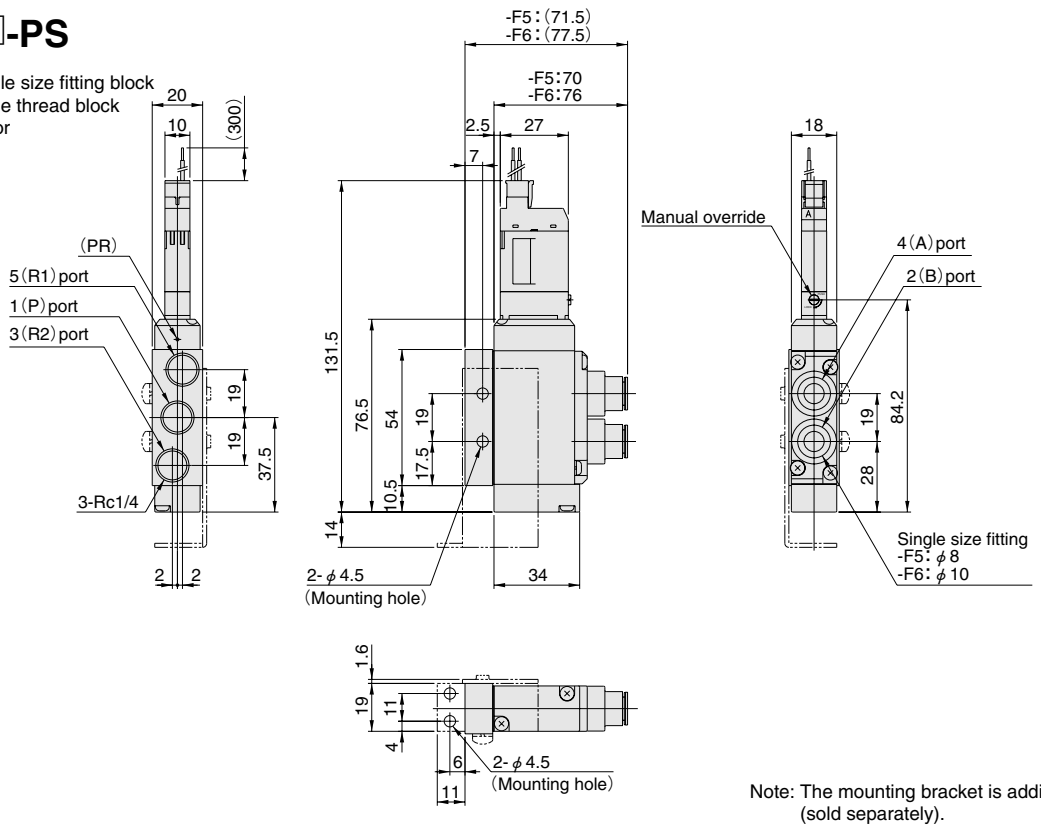
※For T0 type dimensions, see p.609.



Note: The mounting bracket is additional part (sold separately).

F18T0-F□-PS

With output port single size fitting block
With input port female thread block
S type plug connector



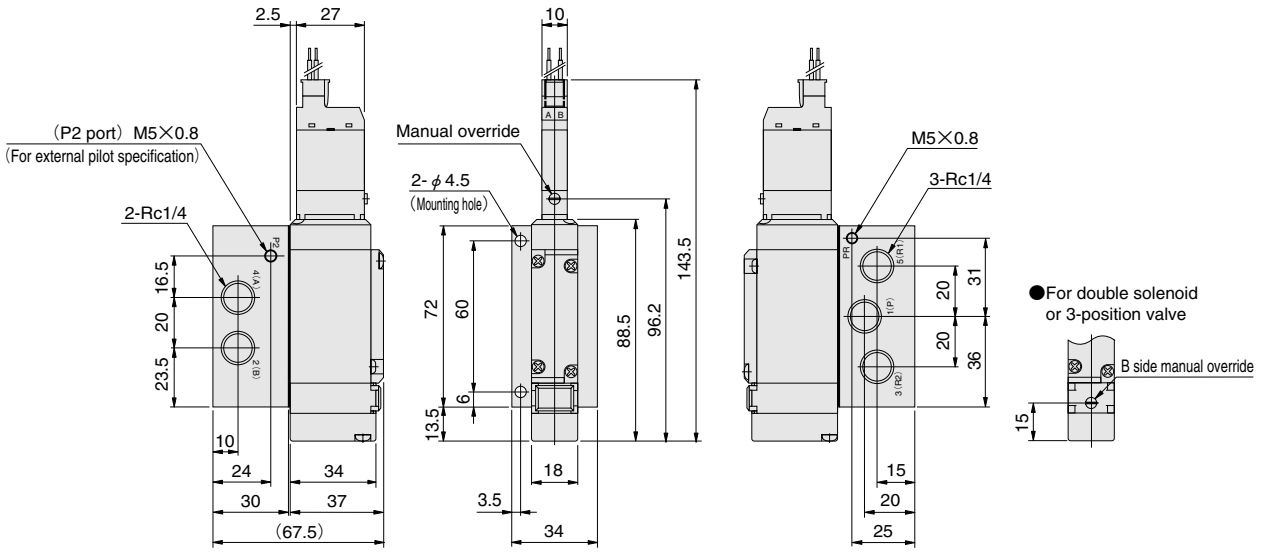
Note: The mounting bracket is additional part (sold separately).

F18 Series Dimensions of Single Valve Unit (Scale 1/3, Unit mm)

F18T

F18T Valve specification Operation method -A2-PS

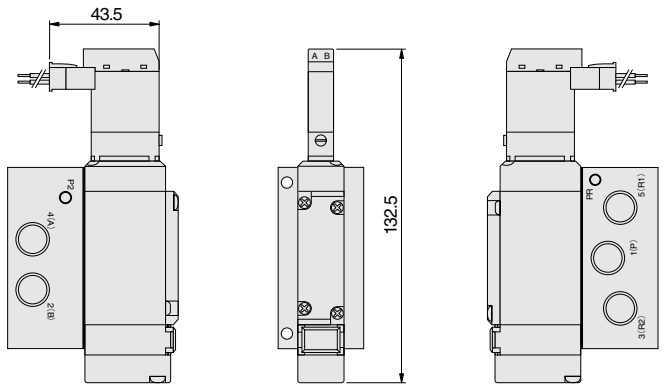
With A type sub-base
S type plug connector



Note : The T0 type is 12mm shorter for the total valve length (the end cover protrusion is 12mm shorter).

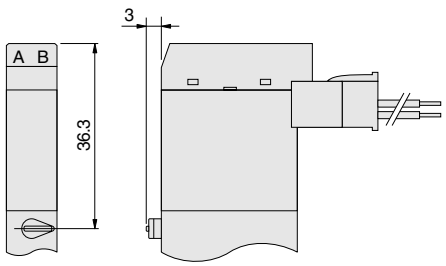
Option

●L type plug connector : **-PL**



Made to Order

●Manual lever override
(Scale 2/3, Unit mm)



Note : The T0 type is 12mm shorter for the total valve length (the end cover protrusion is 12mm shorter).

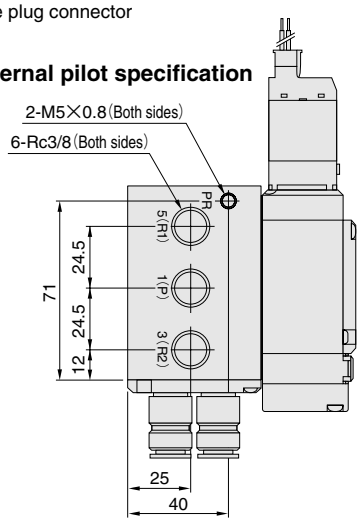
F18 Series Dimensions of Monoblock Manifold A Type (Scale 1/3, Unit mm)

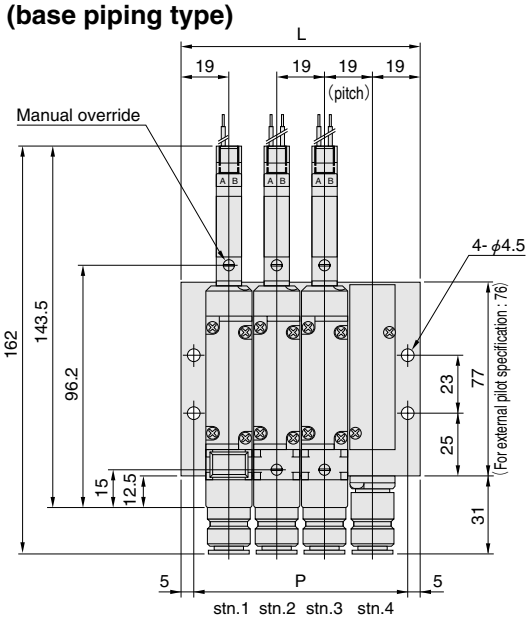
F18M Number of units A J/M Pilot specification (base piping type)

F18MA

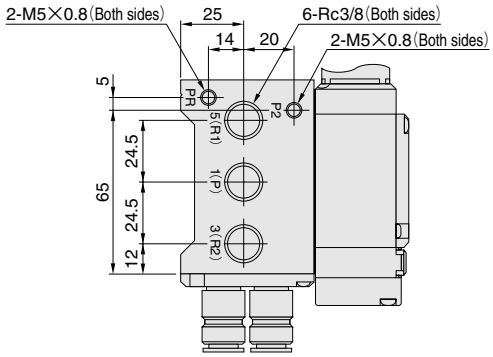
Monoblock manifold A type
With manifold output port different size fitting block
S type plug connector

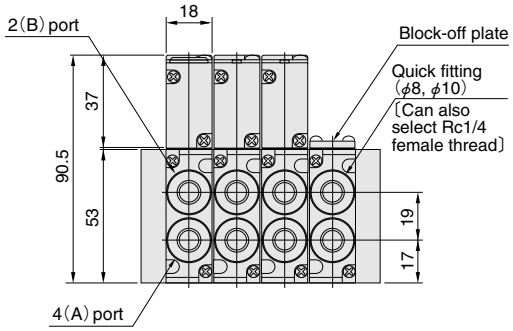
●Internal pilot specification





●External pilot specification(Note)





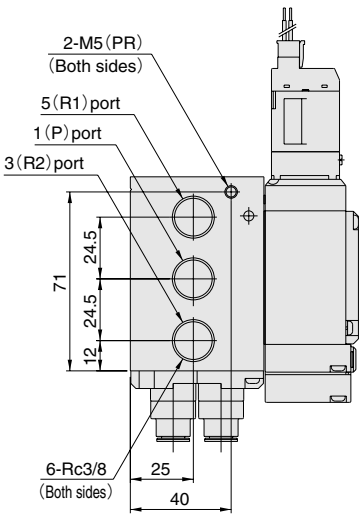
Note: For the external pilot specifications, the basic shape of the monoblock manifold A body type differs from the internal pilot specifications.

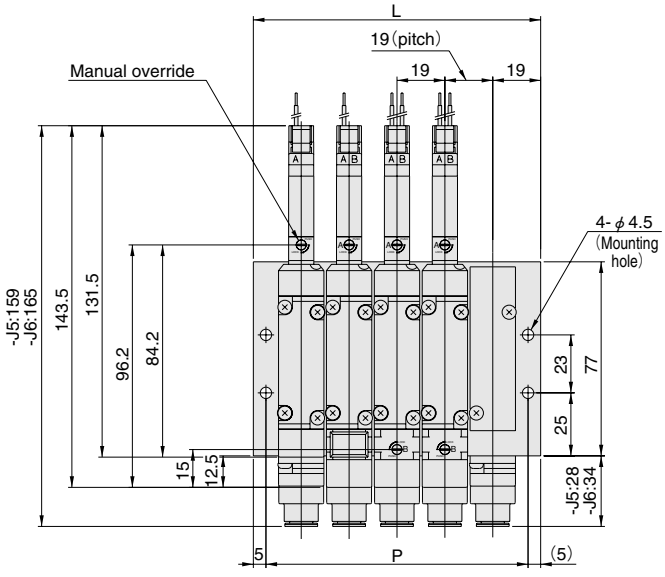
Unit dimensions

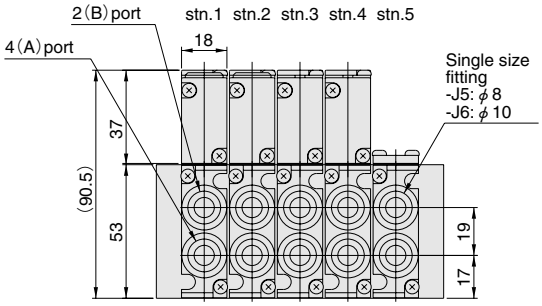
Number of units	L	P
2	57	47
3	76	66
4	95	85
5	114	104
6	133	123
7	152	142
8	171	161
9	190	180
10	209	199
11	228	218
12	247	237
13	266	256
14	285	275
15	304	294
16	323	313
17	342	332
18	361	351
19	380	370
20	399	389

F18M Number of units AL Pilot specification (base piping type)

Monoblock manifold A type
With manifold output port single size fitting block
S type plug connector







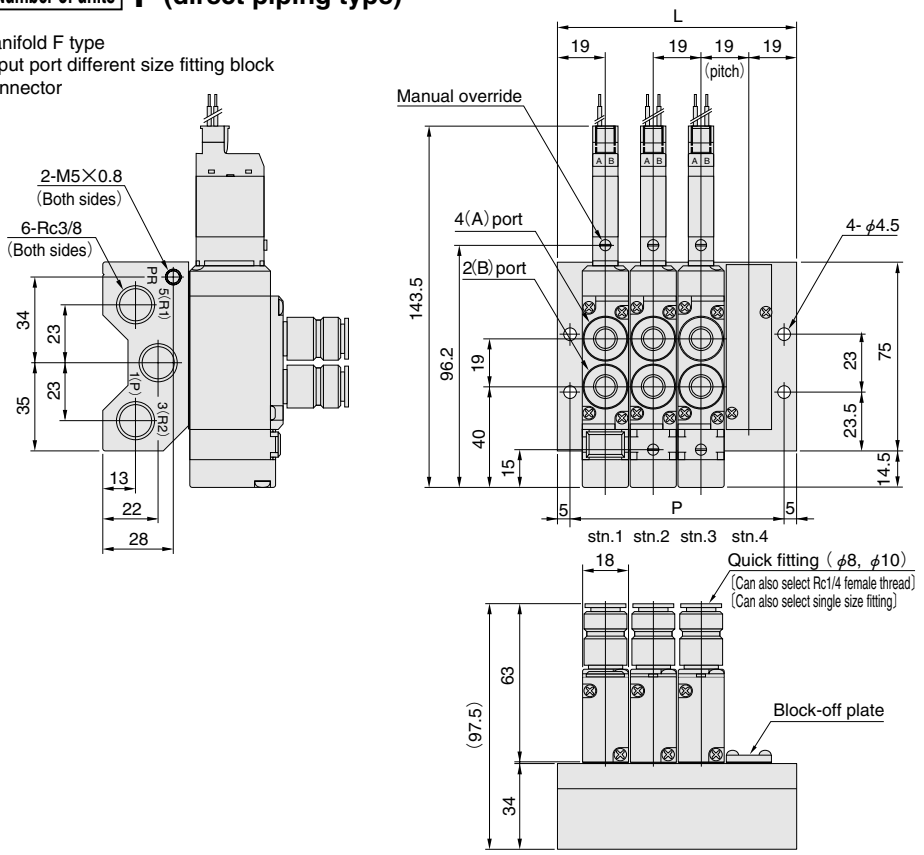
Unit dimensions

Number of units	L	P
2	57	47
3	76	66
4	95	85
5	114	104
6	133	123
7	152	142
8	171	161
9	190	180
10	209	199
11	228	218
12	247	237
13	266	256
14	285	275
15	304	294
16	323	313
17	342	332
18	361	351
19	380	370
20	399	389

F18M Number of units F (direct piping type)

F18MF

Monoblock manifold F type
With valve output port different size fitting block
S type plug connector



Unit dimensions

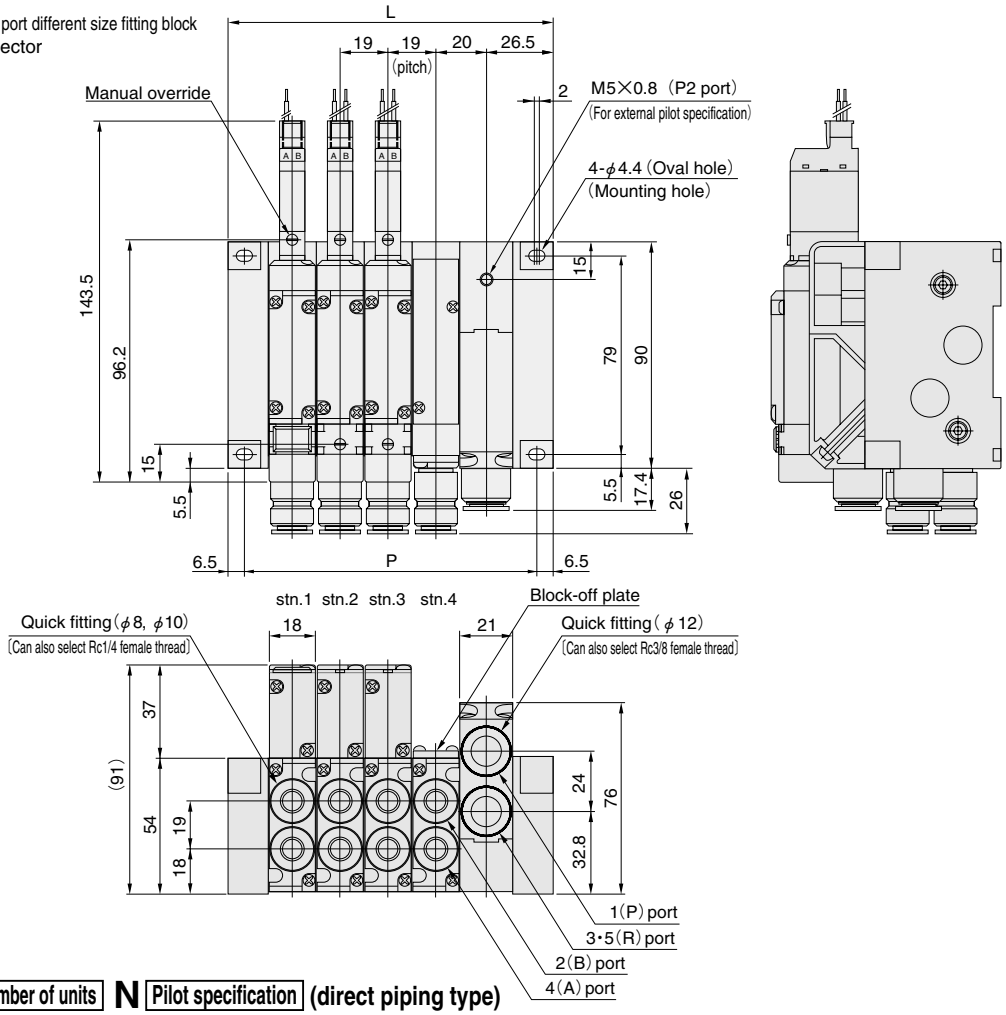
Number of units	L	P
2	57	47
3	76	66
4	95	85
5	114	104
6	133	123
7	152	142
8	171	161
9	190	180
10	209	199
11	228	218
12	247	237
13	266	256
14	285	275
15	304	294
16	323	313
17	342	332
18	361	351
19	380	370
20	399	389

Note : The T0 type is 12mm shorter for the total valve length (the end cover protrusion is 12mm shorter).

F18M [Number of units] N [J / M] [Pilot specification] (base piping type)

F18MNJ

With manifold output port different size fitting block
S type plug connector



Unit dimensions

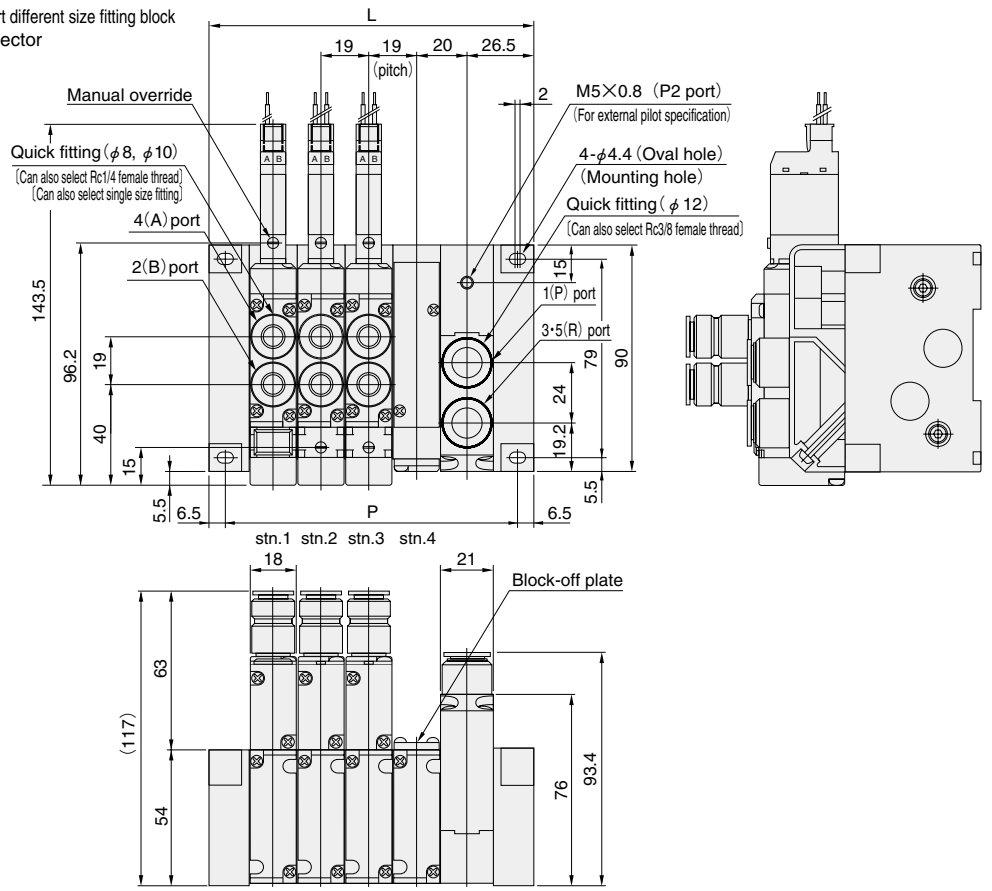
Number of units	L	P
2	91	78
3	110	97
4	129	116
5	148	135
6	167	154
7	186	173
8	205	192
9	224	211
10	243	230
11	262	249
12	281	268
13	300	287
14	319	306
15	348	325
16	357	344
17	376	363
18	395	382
19	414	401
20	433	420

Remark: When using two piping blocks, add 21 to the L and P dimensions shown above.

F18M [Number of units] N [Pilot specification] (direct piping type)

F18MN

With valve output port different size fitting block
S type plug connector



Unit dimensions

Number of units	L	P
2	91	78
3	110	97
4	129	116
5	148	135
6	167	154
7	186	173
8	205	192
9	224	211
10	243	230
11	262	249
12	281	268
13	300	287
14	319	306
15	348	325
16	357	344
17	376	363
18	395	382
19	414	401
20	433	420

Remark: When using two piping blocks, add 21 to the L and P dimensions shown above.

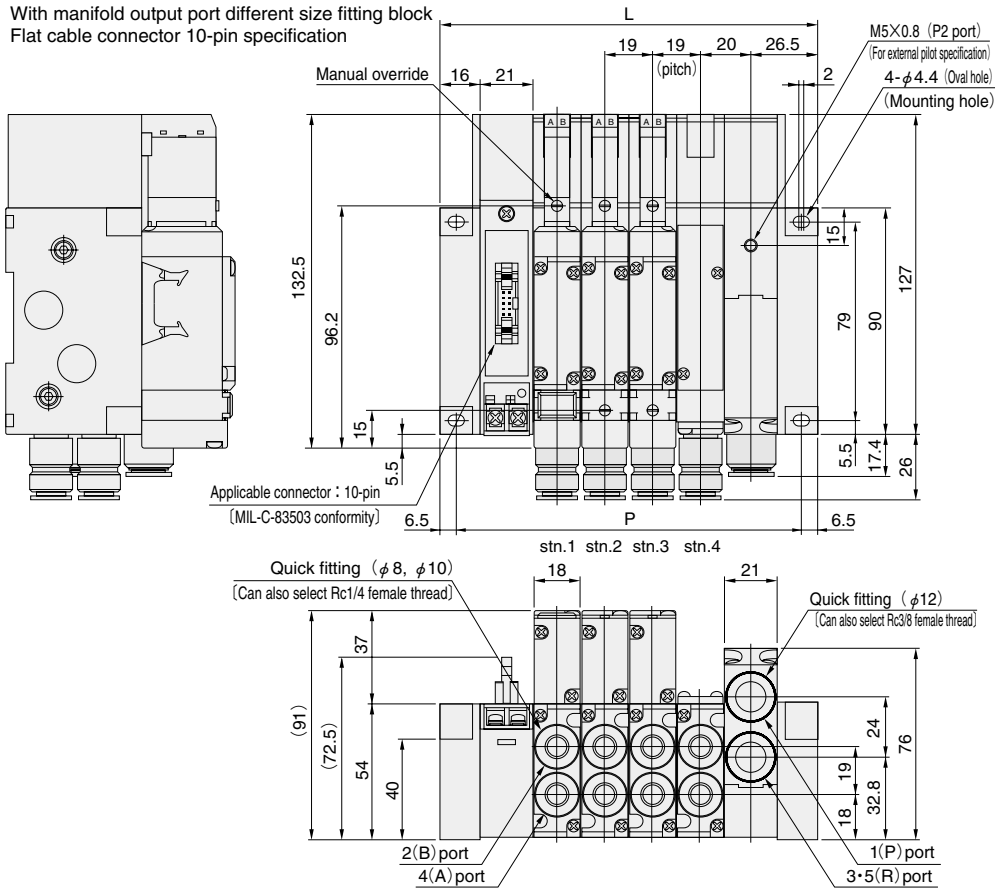
Note : The T0 type is 12mm shorter for the total valve length (the end cover protrusion is 12mm shorter).

F18 Series Dimensions of Split Manifold Plug-in Type (Scale 1/3, Unit mm)

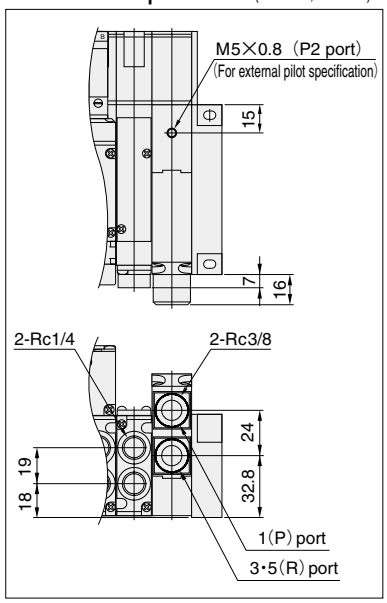
Combination of F18MPJ and F18-CONT

F18M [Number of units] P J/M [Pilot specification] (base piping type)

With manifold output port different size fitting block
Flat cable connector 10-pin specification



Female thread specification (Scale1/4, Unit mm)



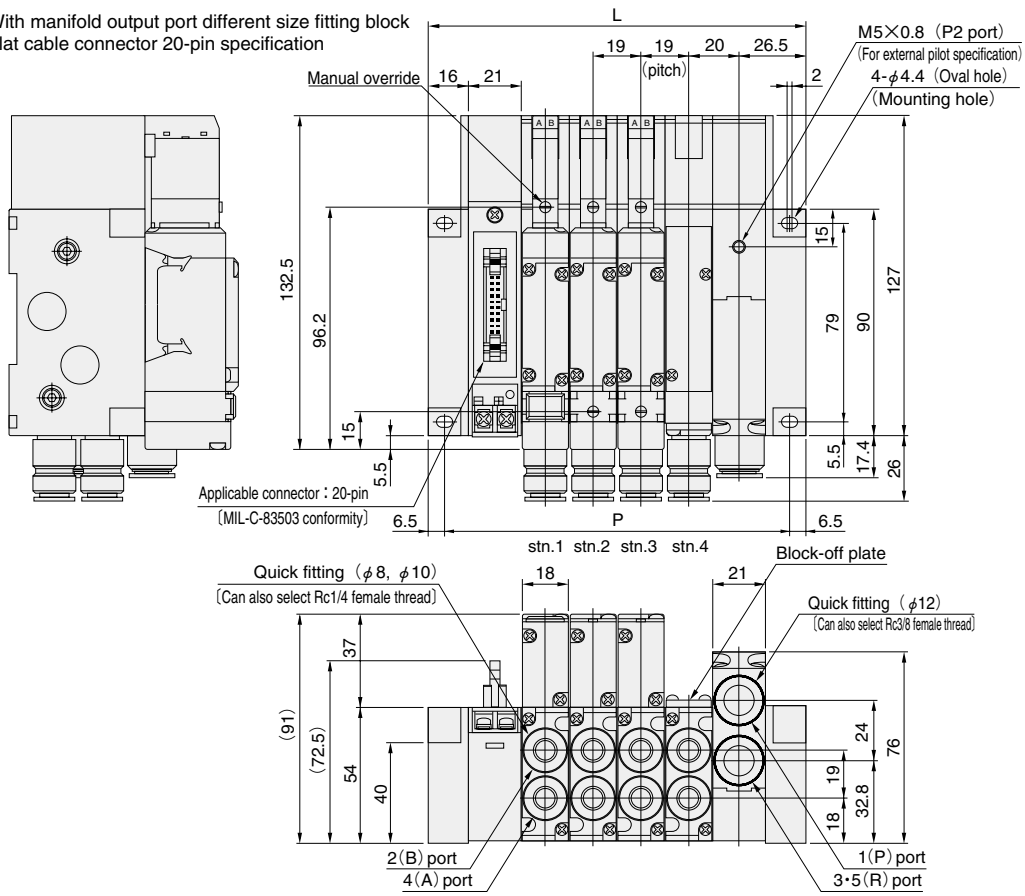
Unit dimensions

Number of units	L	P
2	112	99
3	131	118
4	150	137
5	169	156
6	188	175
7	207	194
8	226	213

Remark: When using two piping blocks, add 21 to the L and P dimensions shown above.

F18M [Number of units] P J/M [Pilot specification] (base piping type)

With manifold output port different size fitting block
Flat cable connector 20-pin specification



Unit dimensions

Number of units	L	P
2	112	99
3	131	118
4	150	137
5	169	156
6	188	175
7	207	194
8	226	213
9	245	232
10	264	251
11	283	270
12	302	289
13	321	308
14	340	327
15	359	346
16	378	365

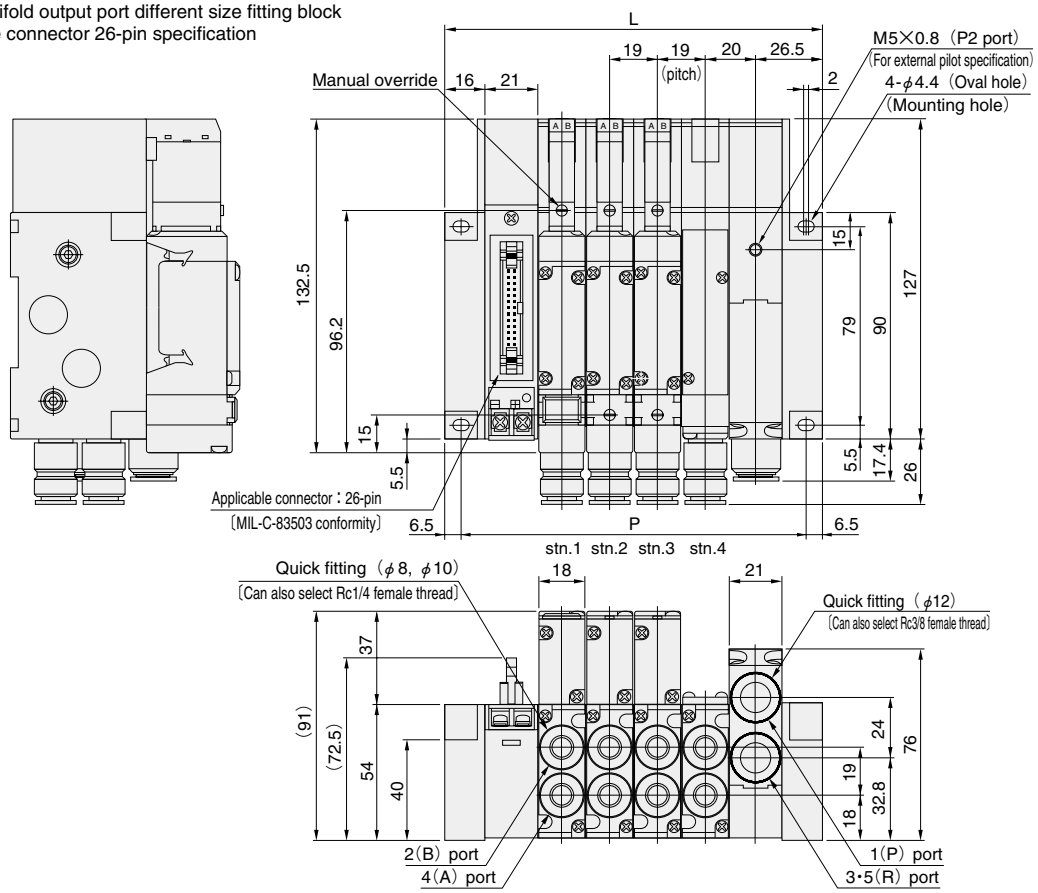
Remark: When using two piping blocks, add 21 to the L and P dimensions shown above.

F18 Series Dimensions of Split Manifold Plug-in Type (Scale 1/3, Unit mm)

Combination of F18MPJ and F18-CONT

F18M [Number of units] P J/M [Pilot specification] (base piping type)

With manifold output port different size fitting block
Flat cable connector 26-pin specification



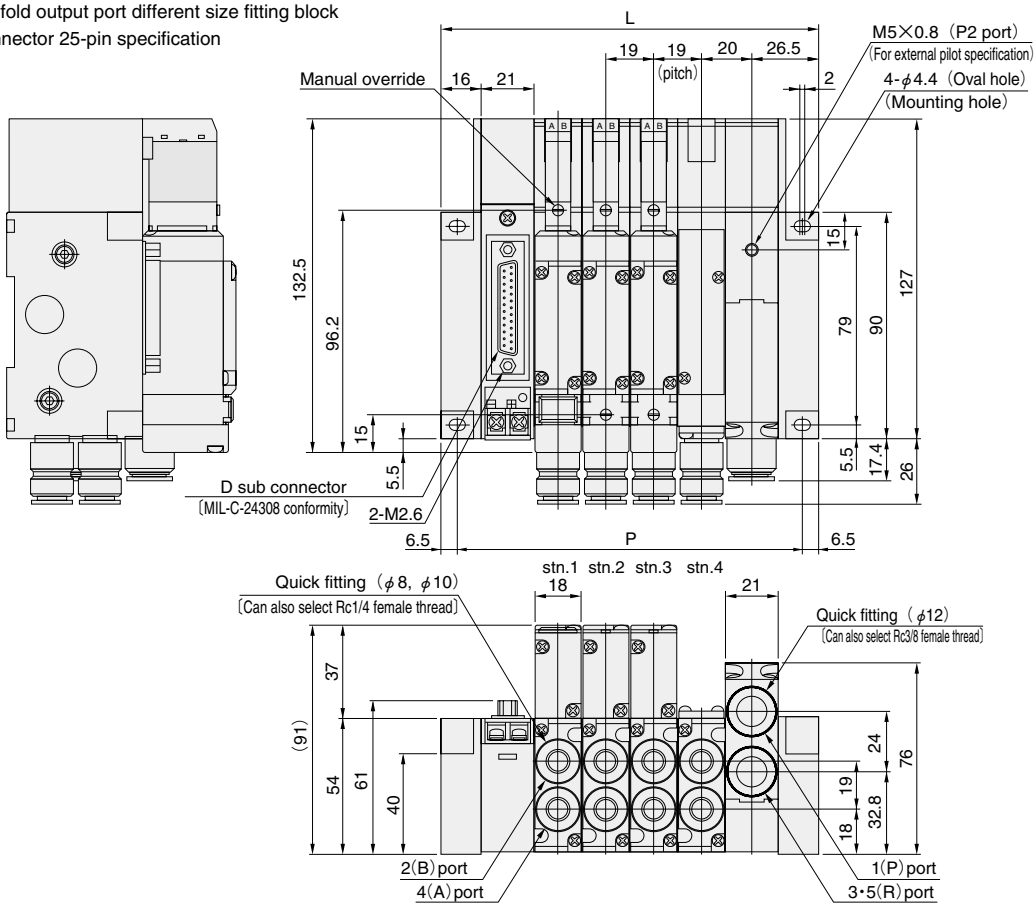
Unit dimensions

Number of units	L	P
2	112	99
3	131	118
4	150	137
5	169	156
6	188	175
7	207	194
8	226	213
9	245	232
10	264	251
11	283	270
12	302	289
13	321	308
14	340	327
15	359	346
16	378	365
17	397	384
18	416	403
19	435	422
20	454	441

Remark: When using two piping blocks, add 21 to the L and P dimensions shown above.

F18M [Number of units] P J/M [Pilot specification] (base piping type)

With manifold output port different size fitting block
D sub connector 25-pin specification



Unit dimensions

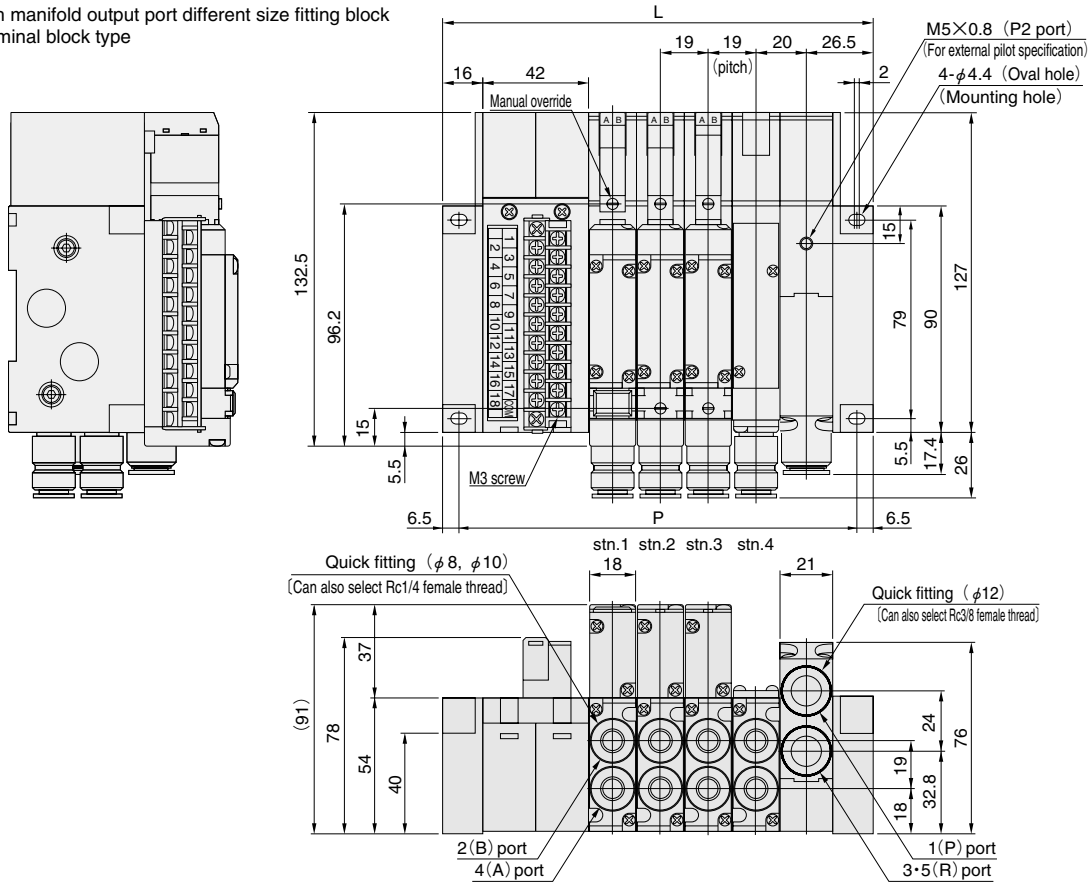
Number of units	L	P
2	112	99
3	131	118
4	150	137
5	169	156
6	188	175
7	207	194
8	226	213
9	245	232
10	264	251
11	283	270
12	302	289
13	321	308
14	340	327
15	359	346
16	378	365
17	397	384
18	416	403
19	435	422
20	454	441

Remark: When using two piping blocks, add 21 to the L and P dimensions shown above.

F18M [Number of units] P [J / M] [Pilot specification] (base piping type)

CAD Combination of F18MPJ and F18-CONT

With manifold output port different size fitting block
Terminal block type



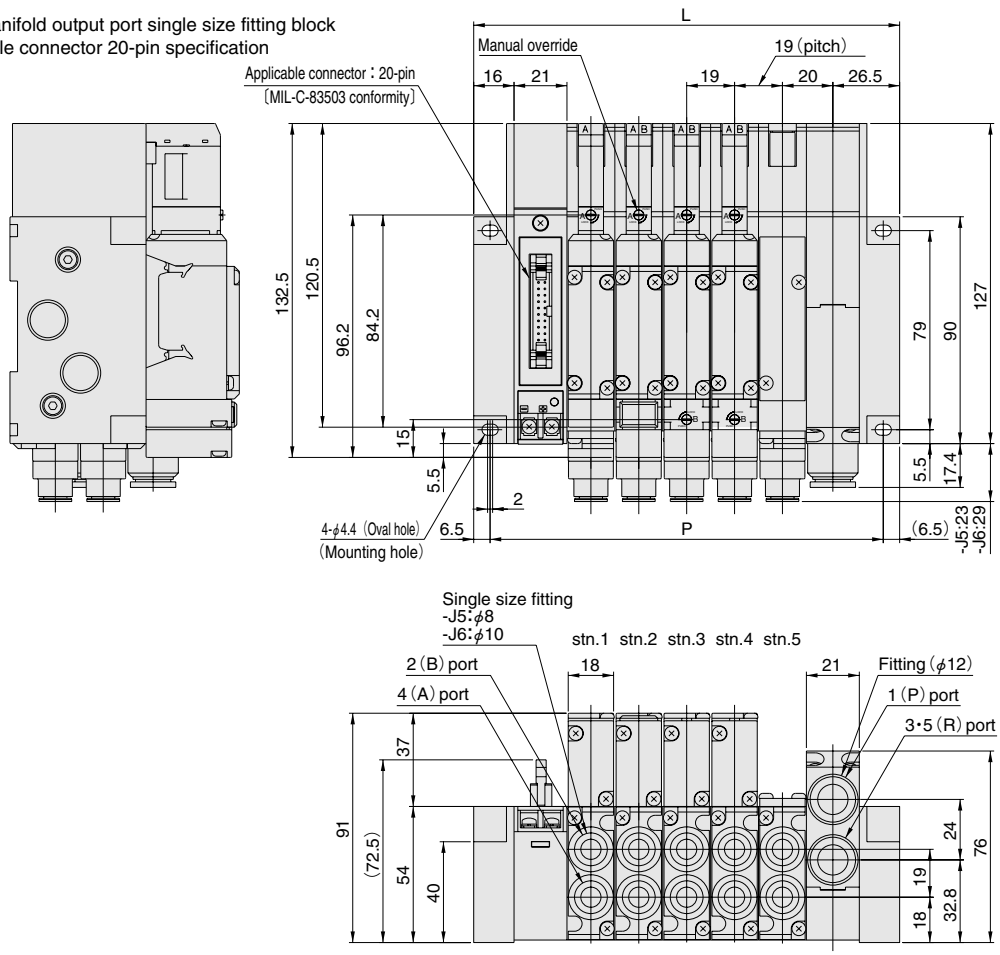
Unit dimensions

Number of units	L	P
2	133	120
3	152	139
4	171	158
5	190	177
6	209	196
7	228	215
8	247	234
9	266	253
10	285	272
11	304	291
12	323	310
13	342	329
14	361	348
15	380	367
16	399	386
17	418	405
18	437	424

Remark: When using two piping blocks, add 21 to the L and P dimensions shown above.

F18M [Number of units] PL [Pilot specification] (base piping type)

With manifold output port single size fitting block
Flat cable connector 20-pin specification



Unit dimensions

Number of units	L	P
2	112	99
3	131	118
4	150	137
5	169	156
6	188	175
7	207	194
8	226	213
9	245	232
10	264	251
11	283	270
12	302	289
13	321	308
14	340	327
15	359	346
16	378	365
17	397	384
18	416	403
19	435	422
20	454	441

Remark: When using two piping blocks, add 21 to the L and P dimensions shown above.

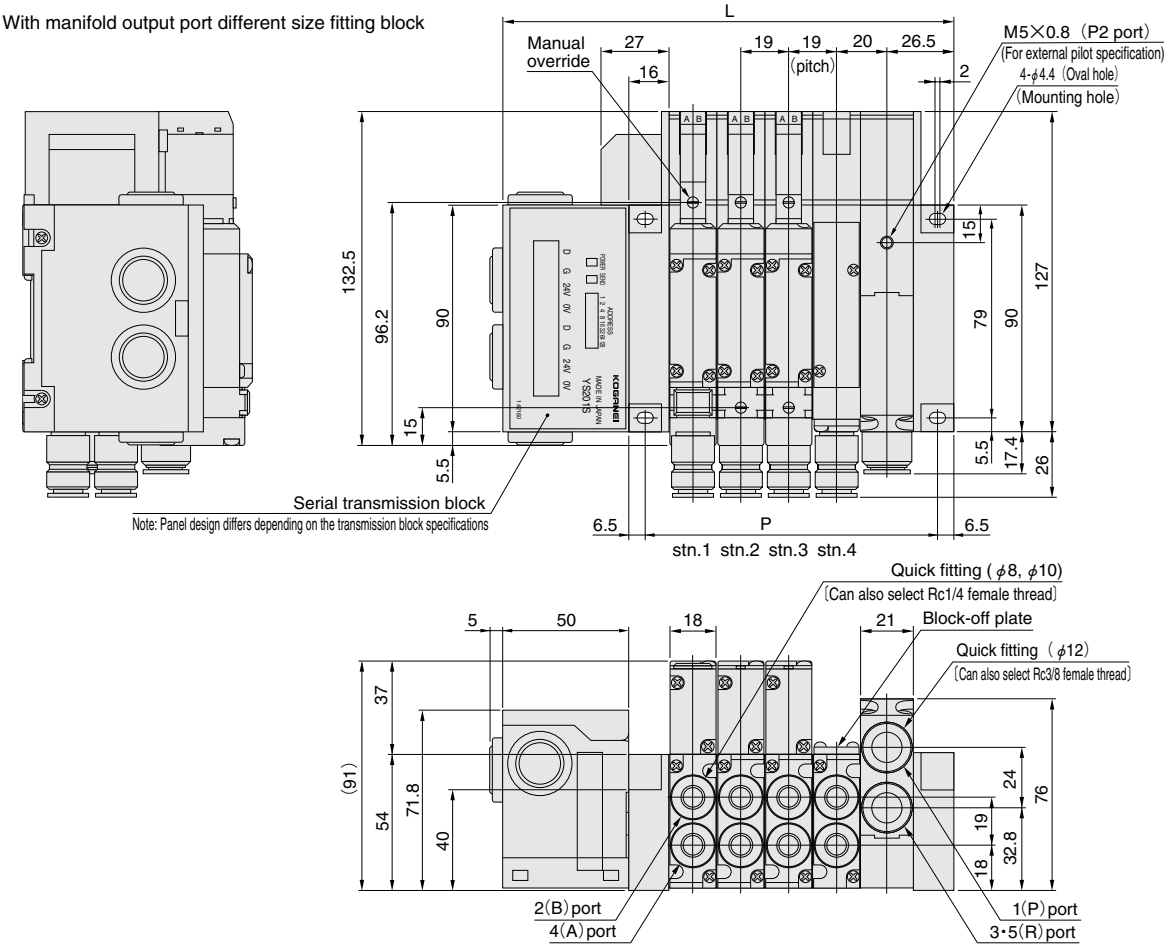
F18 Series Dimensions of Serial Transmission Compatible Manifold (Scale 1/3, Unit mm)

※For dimensions of manifold for Omron CompoBus / D, see p. 618.

F18M Number of units S J M Pilot specification (base piping type)

F18MSJ

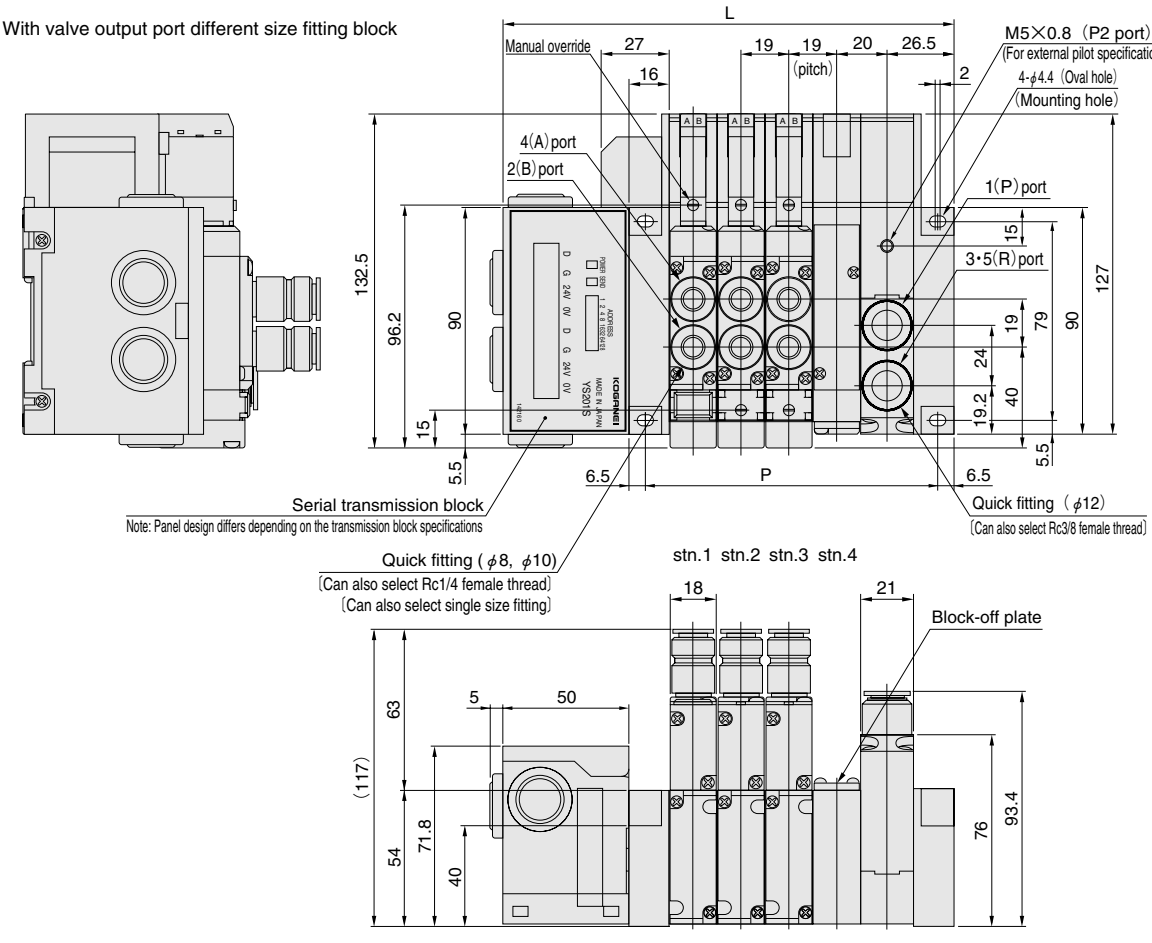
With manifold output port different size fitting block



F18M Number of units S (direct piping type)

F18MS

With valve output port different size fitting block



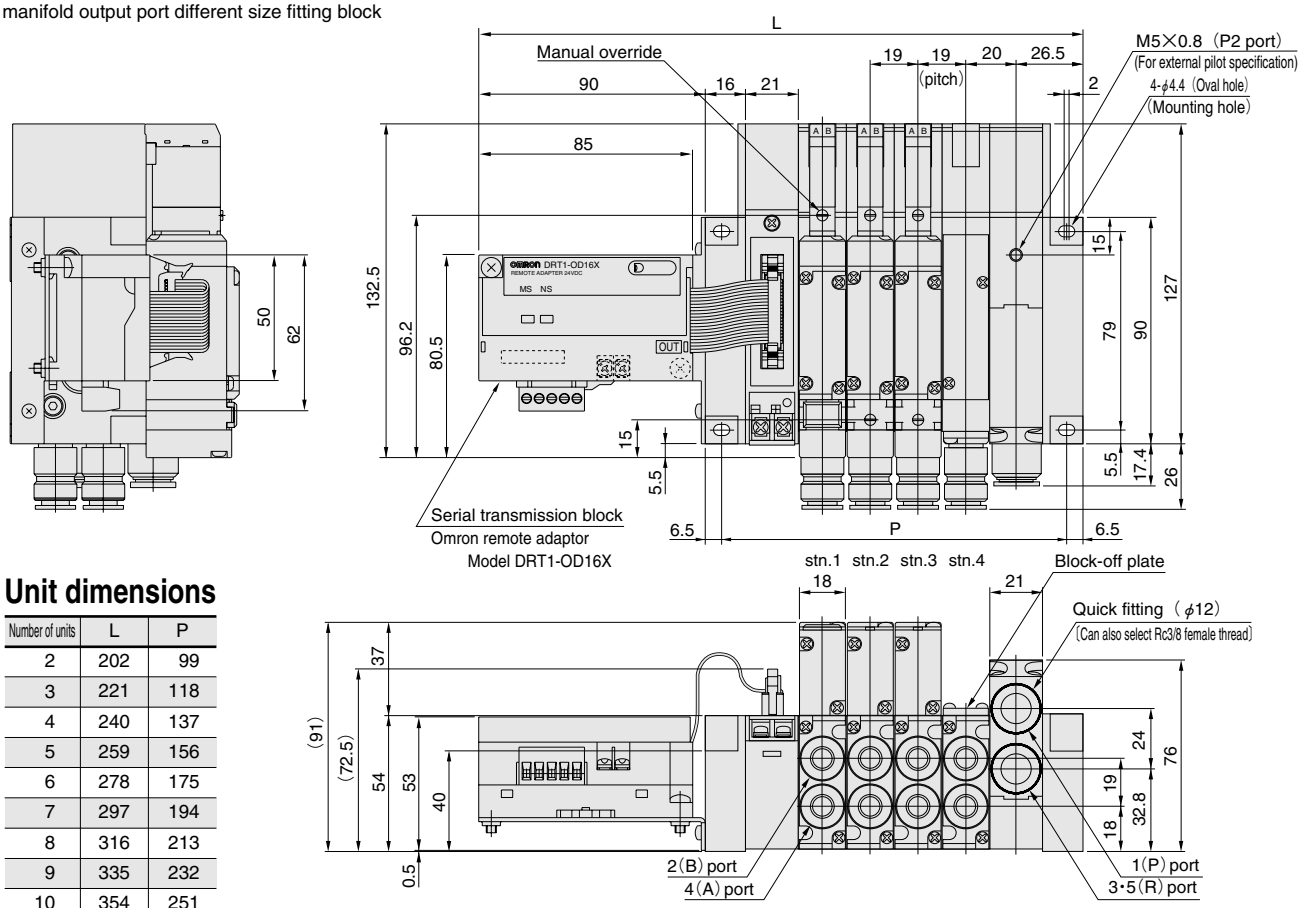
Unit dimensions

Number of units	L	P
2	141	78
3	160	97
4	179	116
5	198	135
6	217	154
7	236	173
8	255	192
9	274	211
10	293	230
11	312	249
12	331	268
13	350	287
14	369	306
15	388	325
16	407	344

Remark: When using two piping blocks, add 21 to the L and P dimensions shown above.

F18M [Number of units] S [J / M] [Pilot specification] (base piping type)

With manifold output port different size fitting block



Unit dimensions

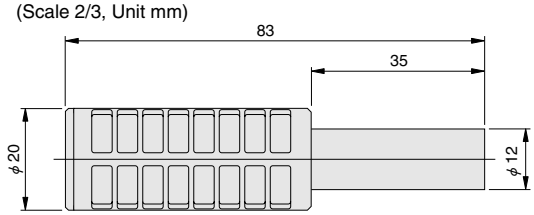
Number of units	L	P
2	202	99
3	221	118
4	240	137
5	259	156
6	278	175
7	297	194
8	316	213
9	335	232
10	354	251
11	373	270
12	392	289
13	411	308
14	430	327
15	449	346
16	468	365

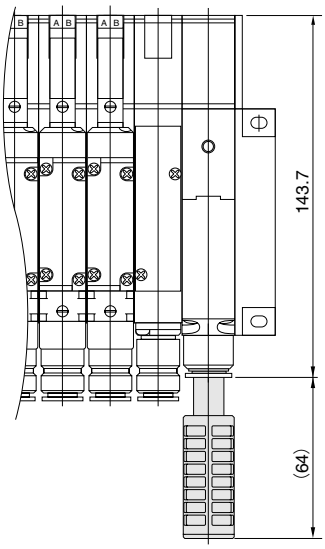
Remark: When using two piping blocks, add 21 to the L and P dimensions shown above.

Additional Parts (Sold Separately)

●Muffler : **KM-J12** [For both plug-in and non-plug-in type]

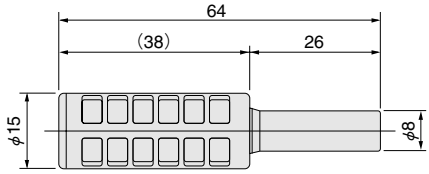
(Scale 2/3, Unit mm)





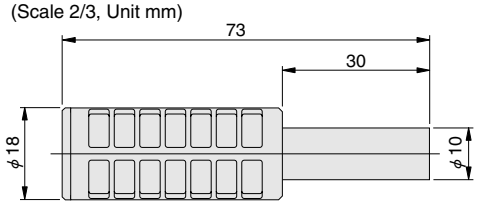
●Muffler：**KM-J8** [For Individual exhaust spacer only]

(Scale 2/3, Unit mm)



●Muffler：**KM-J10** [For Individual exhaust spacer only]

(Scale 2/3, Unit mm)



F SERIES SPECIFICATIONS CONFIRMATION FORM

INDEX

Monoblock Manifold A Type —— 622
Monoblock Manifold F Type —— 623
PC Board Manifold A Type —— 624
PC Board Manifold F Type —— 625
Split Manifold Non-Plug-in Type —— 626
Split Manifold Plug-in Type —— 628
Serial Transmission Compatible Manifold —— 630

Example of Specifications Confirmation Form

Example 1

When ordering F series manifolds, use this specifications confirmation form for complex model configurations, for confirming specifications, etc.
Using the example below for reference, fill out the required items in the "Specifications Confirmation Forms" found on p. 622 and up, and send it.
(Make copies of the Specifications Confirmation Form for your use.)

Order Date Month/ Day/ Year/

Company name	
Name of the person in charge	
Order No.	
Equipment name	

Monoblock Manifold A type

Specifications Confirmation Form

●Fill in selections inside the thick-lined boxes.

Manifold model

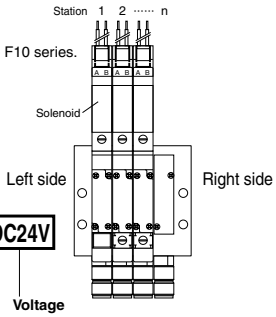
F 10 M 8 A J ☐

Valve size
10 : 10mm width
15 : 15mm width
18 : 18mm width

Valve units
2～**20**

Manifold output specification
J : With different size fitting block
M : With female thread block
L : With single size fitting block

Pilot specification
Blank : Internal pilot manifold
G : External pilot manifold



Mounting valve models

stn. ☐ F Valve size **T** Valve specification **☐ - Note 3 - A1- PS - Note 4 - Note 5 DC24V**

Operation method
Blank : Internal pilot type[Note 1]
G : External pilot type (for positive pressure)[Note 2]
V : External pilot type (for vacuum)[Note 2]

Manual override
Blank : Manual override
R : Manual lever override[Note 3] (made to order)

Voltage
DC24V
DC12V
AC100V

Wiring specification
Blank : L type plug connector Without connector
PN : S type plug connector Without connector
PS : S type plug connector Lead wire length 300mm
PL : L type plug connector Lead wire length 300mm
PS3 : S type plug connector Lead wire length 3000 mm
PL3 : L type plug connector Lead wire length 3000 mm
CPS : Plus common pre-wiring connection S type plug connector Lead wire 300mm
CPL : Plus common pre-wiring connection L type plug connector Lead wire 300mm
CPS3 : Plus common pre-wiring connection S type plug connector Lead wire 3000 mm
CPL3 : Plus common pre-wiring connection L type plug connector Lead wire 3000 mm

Individual air supply and exhaust spacer[Note 5]
Blank : Without spacer
NPM : Individual air supply spacer (with M5 female thread for F10)
NP6 : Individual air supply spacer (with φ6 fitting for F15)
NP8 : Individual air supply spacer (with φ8 fitting for F15 and F18)
NP0 : Individual air supply spacer (with φ10 fitting for F18)
NRM : Individual exhaust spacer (with M5 female thread for F10)
NR6 : Individual exhaust spacer (with φ6 fitting for F15)
NR8 : Individual exhaust spacer (with φ8 fitting for F15 and F18)
NR0 : Individual exhaust spacer (with φ10 fitting for F18)

Manifold fitting specification[Note 4]
J5 : Can be selected with manifold output specification **L** (with single size fitting block). Manifold side output port single size fitting **F10**: φ4, **F15**: φ6, **F18**: φ8
J6 : Can be selected with manifold output specification **L** (with single size fitting block). Manifold side output port single size fitting **F10**: φ6, **F15**: φ8, **F18**: φ10

※For the valve and block-off plate mounted at each station, enter ○ for each designated station below.

Mounting valve, block-off plate \ Station		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Quantity
F☐T0	2-position, single solenoid only	○	○																			2
F☐T1	2-position, single solenoid specification			○	○																	2
F☐T2	2-position, double solenoid specification					○	○															2
F☐T3	3-position, all port block							○														1
F☐T4[Note 6]	3-position, ABR connection								○													1
F☐T5[Note 6]	3-position, PAB connection																					
F☐BP	Block-off plate																					
Manual override (-R) Manual lever override		○	○																			2
Manifold fitting specification[Note 4]	J5 Manifold output port single size fitting block																					
	J6 Manifold output port single size fitting block																					
NPM	Individual air supply spacer (with M5 female thread for F10)			○	○																	2
NP6	Individual air supply spacer (with φ6 fitting for F15)																					
NP8	Individual air supply spacer (with φ8 fitting for F15 and F18)																					
NP0	Individual air supply spacer (with φ10 fitting for F18)																					
NRM	Individual exhaust spacer (with M5 female thread for F10)																					
NR6	Individual exhaust spacer (with φ6 fitting for F15)																					
NR8	Individual exhaust spacer (with φ8 fitting for F15 and F18)																					
NR0	Individual exhaust spacer (with φ10 fitting for F18)																					

Notes: 1. Cannot be mounted on the external pilot manifold.
2. Cannot be mounted on the internal pilot manifold.
3. To designate a manual lever override, enter ○ in the manual override column of the designated stations in the above table.
4. When the manifold output specifications are **L**(with single size fitting block), select from **J5** or **J6** in the manifold fitting specifications column of the above table, and enter ○ for each station.
5. When mounting the individual air supply or exhaust spacer, enter ○ in the spacer column of the designated stations in the above table.
6. Not available with vacuum valve.

Quantity	5 set	Delivery	June 1

622

Example of Specifications Confirmation Form

Example 2

Order Date Month/ Day/ Year/

Company name	
Name of the person in charge	
Order No.	
Equipment name	

Monoblock Manifold F Type
Specifications Confirmation Form

●Fill in selections inside the thick-lined boxes.

Manifold model

F 10 M 8 F

Valve size
10 : 10mm width
15 : 15mm width
18 : 18mm width

Valve units
2～**20**

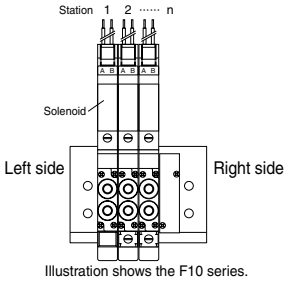


Illustration shows the F10 series.

Mounting valve models

stn. □ F Valve size **T** Valve specification **-** Note 1 **-** Note 2 **-** **PS** **-** Note 3 **AC100V**

Manual override
Blank : Manual override
R : Manual lever override[Note 1] (made to order)

Valve output type
FJ : With different size fitting block (**F10**: ϕ4 and ϕ6, **F15**: ϕ6 and ϕ8, **F18**: ϕ8 and ϕ10)[Note 2]
FJ5 : With single size fitting block (**F10**: ϕ4, **F15**: ϕ6, **F18**: ϕ8)[Note 2]
FJ6 : With single size fitting block (**F10**: ϕ6, **F15**: ϕ8, **F18**: ϕ10)[Note 2]
FM : With female thread block (**F10**:M5×0.8, **F15**:Rc1/8, **F18**:Rc1/4)[Note 2]

Voltage
DC24V
DC12V
AC100V

Wiring specification
Blank : L type plug connector Without connector
PN : S type plug connector Without connector
PS : S type plug connector Lead wire length 300mm
PL : L type plug connector Lead wire length 300mm
PS3 : S type plug connector Lead wire length 3000 mm
PL3 : L type plug connector Lead wire length 3000 mm
CPS : Plus common pre-wiring connection S type plug connector Lead wire 300mm
CPL : Plus common pre-wiring connection L type plug connector Lead wire 300mm
CPS3 : Plus common pre-wiring connection S type plug connector Lead wire 3000 mm
CPL3 : Plus common pre-wiring connection L type plug connector Lead wire 3000 mm

Individual air supply and exhaust spacer[Note 3]
Blank : Without spacer
NPM : Individual air supply spacer (with M5 female thread for F10)
NP6 : Individual air supply spacer (with ϕ6 fitting for F15)
NP8 : Individual air supply spacer (with ϕ8 fitting for F15 and F18)
NP0 : Individual air supply spacer (with ϕ10 fitting for F18)
NRM : Individual exhaust spacer (with M5 female thread for F10)
NR6 : Individual exhaust spacer (with ϕ6 fitting for F15)
NR8 : Individual exhaust spacer (with ϕ8 fitting for F15 and F18)
NR0 : Individual exhaust spacer (with ϕ10 fitting for F18)

※For the valve and block-off plate mounted at each station, enter ○ for each designated station below.

Mounting valve, block-off plate \ Station		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Quantity
F□T0	2-position, single solenoid only	○	○																			**2**
F□T1	2-position, single solenoid specification			○	○																	**2**
F□T2	2-position, double solenoid specification					○	○															**2**
F□T3	3-position, all port block							○														**1**
F□T4	3-position, ABR connection								○													**1**
F□T5	3-position, PAB connection																					
F□BP	Block-off plate																					
Manual override (**-R**) Manual lever override																						
Valve output type[Note 2]	**FJ** With different size fitting block	○	○	○	○																	**4**
	FJ5 With single size fitting block					○																**1**
	FJ6 With single size fitting block						○															**1**
	FM With female thread block							○	○													**2**
NPM	Individual air supply spacer (with M5 female thread for F10)																					
NP6	Individual air supply spacer (with ϕ6 fitting for F15)																					
NP8	Individual air supply spacer (with ϕ8 fitting for F15 and F18)																					
NP0	Individual air supply spacer (with ϕ10 fitting for F18)																					
NRM	Individual exhaust spacer (with M5 female thread for F10)																					
NR6	Individual exhaust spacer (with ϕ6 fitting for F15)																					
NR8	Individual exhaust spacer (with ϕ8 fitting for F15 and F18)																					
NR0	Individual exhaust spacer (with ϕ10 fitting for F18)																					

Notes: 1. To designate a manual lever override, enter ○ in the manual override column of the designated stations in the above table.
2. Select from **FJ**, **FJ5**, **FJ6, FM** in the valve type column of the above table, and enter ○ for each station.
3. When mounting the individual air supply or exhaust spacer, enter ○ in the spacer column of the designated stations in the above table.

Quantity	5 set	Delivery	June 1

623

Order Date Month/ Day/ Year/

Company name	
Name of the person in charge	
Order No.	
Equipment name	

Monoblock Manifold A type

Specifications Confirmation Form

●Fill in selections inside the thick-lined boxes.

Manifold model

F□M□A□□

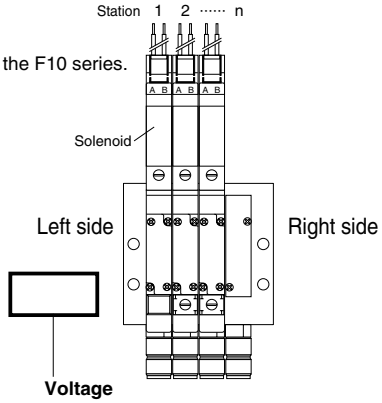
Valve size
10 : 10mm width
15 : 15mm width
18 : 18mm width

Valve units
2～**20**

Manifold output specification
J : With different size fitting block
M : With female thread block
L : With single size fitting block

Pilot specification
Blank : Internal pilot manifold
G : External pilot manifold

Illustration shows the F10 series.



Mounting valve models

stn. □F Valve size **T** Valve specification **□** - Note 3 - **A1-** **□** - Note 4 - Note 5 **□**

Operation method
Blank : Internal pilot type[Note 1]
G : External pilot type (for positive pressure)[Note 2]
V : External pilot type (for vacuum)[Note 2]

Manual override
Blank : Manual override
R : Manual lever override[Note 3] (made to order)

Voltage
DC24V
DC12V
AC100V

Wiring specification
Blank : L type plug connector Without connector
PN : S type plug connector Without connector
PS : S type plug connector Lead wire length 300mm
PL : L type plug connector Lead wire length 300mm
PS3 : S type plug connector Lead wire length 3000 mm
PL3 : L type plug connector Lead wire length 3000 mm
CPS : Plus common pre-wiring connection S type plug connector Lead wire 300mm
CPL : Plus common pre-wiring connection L type plug connector Lead wire 300mm
CPS3 : Plus common pre-wiring connection S type plug connector Lead wire 3000 mm
CPL3 : Plus common pre-wiring connection L type plug connector Lead wire 3000 mm

Individual air supply and exhaust spacer[Note 5]
Blank : Without spacer
NPM : Individual air supply spacer (with M5 female thread for F10)
NP6 : Individual air supply spacer (with ϕ6 fitting for F15)
NP8 : Individual air supply spacer (with ϕ8 fitting for F15 and F18)
NP0 : Individual air supply spacer (with ϕ10 fitting for F18)
NRM : Individual exhaust spacer (with M5 female thread for F10)
NR6 : Individual exhaust spacer (with ϕ6 fitting for F15)
NR8 : Individual exhaust spacer (with ϕ8 fitting for F15 and F18)
NR0 : Individual exhaust spacer (with ϕ10 fitting for F18)

Manifold fitting specification[Note 4]
J5 : Can be selected with manifold output specification **L** (with single size fitting block). Manifold side output port single size fitting **F10**: ϕ4, **F15**: ϕ6, **F18**: ϕ8
J6 : Can be selected with manifold output specification **L** (with single size fitting block). Manifold side output port single size fitting **F10**: ϕ6, **F15**: ϕ8, **F18**: ϕ10

※For the valve and block-off plate mounted at each station, enter ○ for each designated station below.

Mounting valve, block-off plate \ Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Quantity
F□T0 2-position, single solenoid only																					
F□T1 2-position, single solenoid specification																					
F□T2 2-position, double solenoid specification																					
F□T3 3-position, all port block																					
F□T4[Note 6] 3-position, ABR connection																					
F□T5[Note 6] 3-position, PAB connection																					
F□BP Block-off plate																					
Manual override (**-R**) Manual lever override																					
Manifold fitting specification[Note 4] **J5** Manifold output port single size fitting block																					
Manifold fitting specification[Note 4] **J6** Manifold output port single size fitting block																					
NPM Individual air supply spacer (with M5 female thread for F10)																					
NP6 Individual air supply spacer (with ϕ6 fitting for F15)																					
NP8 Individual air supply spacer (with ϕ8 fitting for F15 and F18)																					
NP0 Individual air supply spacer (with ϕ10 fitting for F18)																					
NRM Individual exhaust spacer (with M5 female thread for F10)																					
NR6 Individual exhaust spacer (with ϕ6 fitting for F15)																					
NR8 Individual exhaust spacer (with ϕ8 fitting for F15 and F18)																					
NR0 Individual exhaust spacer (with ϕ10 fitting for F18)																					

Notes: 1. Cannot be mounted on the external pilot manifold.
2. Cannot be mounted on the internal pilot manifold.
3. To designate a manual lever override, enter ○ in the manual override column of the designated stations in the above table.
4. When the manifold output specifications are **L**(with single size fitting block), select from **J5** or **J6** in the manifold fitting specifications column of the above table, and enter ○ for each station.
5. When mounting the individual air supply or exhaust spacer, enter ○ in the spacer column of the designated stations in the above table.
6. Not available with vacuum valve.

Quantity	Delivery
set	

Order Date Month/ Day/ Year/

Company name	
Name of the person in charge	
Order No.	
Equipment name	

Monoblock Manifold F Type

Specifications Confirmation Form

●Fill in selections inside the thick-lined boxes.

Manifold model

F□M□F

Valve size
10 : 10mm width
15 : 15mm width
18 : 18mm width

Valve units
2～**20**

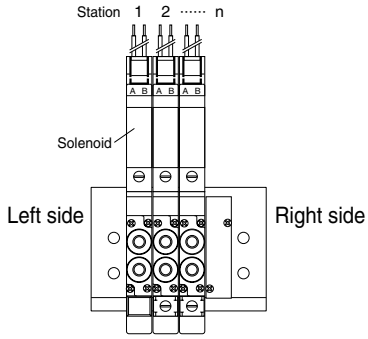


Illustration shows the F10 series.

Mounting valve models

stn. □ F Valve size **T** Valve specification - Note 1 - Note 2 - [ ] - Note 3 [ ]

Manual override
Blank : Manual override
R : Manual lever override[Note 1] (made to order)

Valve output type
FJ : With different size fitting block (**F10**: ϕ4 and ϕ6, **F15**: ϕ6 and ϕ8, **F18**: ϕ8 and ϕ10)[Note 2]
FJ5 : With single size fitting block (**F10**: ϕ4, **F15**: ϕ6, **F18**: ϕ8)[Note 2]
FJ6 : With single size fitting block (**F10**: ϕ6, **F15**: ϕ8, **F18**: ϕ10)[Note 2]
FM : With female thread block (**F10**:M5×0.8, **F15**:Rc1/8, **F18**:Rc1/4)[Note 2]

Voltage
DC24V
DC12V
AC100V

Wiring specification
Blank : L type plug connector Without connector
PN : S type plug connector Without connector
PS : S type plug connector Lead wire length 300mm
PL : L type plug connector Lead wire length 300mm
PS3 : S type plug connector Lead wire length 3000 mm
PL3 : L type plug connector Lead wire length 3000 mm
CPS : Plus common pre-wiring connection S type plug connector Lead wire 300mm
CPL : Plus common pre-wiring connection L type plug connector Lead wire 300mm
CPS3 : Plus common pre-wiring connection S type plug connector Lead wire 3000 mm
CPL3 : Plus common pre-wiring connection L type plug connector Lead wire 3000 mm

Individual air supply and exhaust spacer[Note 3]
Blank : Without spacer
NPM : Individual air supply spacer (with M5 female thread for F10)
NP6 : Individual air supply spacer (with ϕ6 fitting for F15)
NP8 : Individual air supply spacer (with ϕ8 fitting for F15 and F18)
NP0 : Individual air supply spacer (with ϕ10 fitting for F18)
NRM : Individual exhaust spacer (with M5 female thread for F10)
NR6 : Individual exhaust spacer (with ϕ6 fitting for F15)
NR8 : Individual exhaust spacer (with ϕ8 fitting for F15 and F18)
NR0 : Individual exhaust spacer (with ϕ10 fitting for F18)

※For the valve and block-off plate mounted at each station, enter ○ for each designated station below.

Mounting valve, block-off plate \ Station		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Quantity
F□T0	2-position, single solenoid only																					
F□T1	2-position, single solenoid specification																					
F□T2	2-position, double solenoid specification																					
F□T3	3-position, all port block																					
F□T4	3-position, ABR connection																					
F□T5	3-position, PAB connection																					
F□BP	Block-off plate																					
Manual override (**-R**) Manual lever override																						
Valve output type[Note 2]	**FJ** With different size fitting block																					
	FJ5 With single size fitting block																					
	FJ6 With single size fitting block																					
	FM With female thread block																					
NPM	Individual air supply spacer (with M5 female thread for F10)																					
NP6	Individual air supply spacer (with ϕ6 fitting for F15)																					
NP8	Individual air supply spacer (with ϕ8 fitting for F15 and F18)																					
NP0	Individual air supply spacer (with ϕ10 fitting for F18)																					
NRM	Individual exhaust spacer (with M5 female thread for F10)																					
NR6	Individual exhaust spacer (with ϕ6 fitting for F15)																					
NR8	Individual exhaust spacer (with ϕ8 fitting for F15 and F18)																					
NR0	Individual exhaust spacer (with ϕ10 fitting for F18)																					

Notes: 1. To designate a manual lever override, enter ○ in the manual override column of the designated stations in the above table.
2. Select from **FJ**, **FJ5**, **FJ6, FM** in the valve type column of the above table, and enter ○ for each station.
3. When mounting the individual air supply or exhaust spacer, enter ○ in the spacer column of the designated stations in the above table.

Quantity	Delivery
set	

Order Date Month/ Day/ Year/

Company name	
Name of the person in charge	
Order No.	
Equipment name	

PC Board Manifold A Type

Specifications Confirmation Form

●Fill in selections inside the thick-lined boxes.

Manifold model

F□M□AP□□-□□-□

Valve size
10 : 10mm width
15 : 15mm width

Valve units
6～16 (only even-numbered units)

Manifold output specification
J : With different size fitting block
M : With female thread block
L : With single fitting block

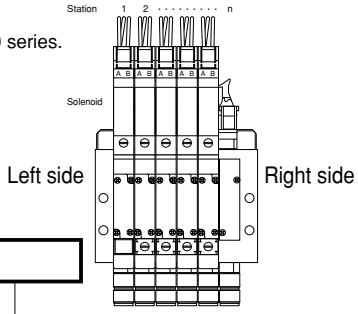
Pilot specification
Blank : Internal pilot manifold
G : External pilot manifold

Wiring specification
F200
F201

Wiring connection specification
S : Single wiring
W : Double wiring

Caution: 6 or 8 units, when the wiring connection specifications are **-W**(double wiring).

Illustration shows the F10 series.



Mounting valve models

stn. □ F Valve size **T** Valve specification **□** - Note 3 - **A1 - PP -** Note 4 - Note 5 □

Operation method
Blank : Internal pilot type[Note 1]
G : External pilot type (for positive pressure)[Note 2]
V : External pilot type (for vacuum)[Note 2]

Manual override
Blank : Manual override
R : Manual lever override[Note 3] (made to order)

Individual air supply and exhaust spacer[Note 5]
Blank : Without spacer
NPM : Individual air supply spacer (with M5 female thread for F10)
NP6 : Individual air supply spacer (with φ6 fitting for F15)
NP8 : Individual air supply spacer (with φ8 fitting for F15)
NRM : Individual exhaust spacer (with M5 female thread for F10)
NR6 : Individual exhaust spacer (with φ6 fitting for F15)
NR8 : Individual exhaust spacer (with φ8 fitting for F15)

Voltage
DC24V
DC12V

Manifold fitting specification[Note 4]
J5 : Can be selected with manifold output specification **L** (with single size fitting block). Manifold side output port single size fitting **F10**: φ4, **F15**: φ6
J6 : Can be selected with manifold output specification **L** (with single size fitting block). Manifold side output port single size fitting **F10**: φ6, **F15**: φ8

Wiring connection specifications are **-S** (for single wiring)

※For the valve and block-off plate mounted at each station, enter ○ for each designated station below.

Mounting valve, block-off plate ＼ Station		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Quantity
F□T0	2-position, single solenoid only																	
F□T1	2-position, single solenoid specification																	
F□BPC	Block-off plate																	
Manual override (**-R**) Manual lever override																		
Manifold fitting specification[Note 4]	**J5** Manifold output port single size fitting block																	
	J6 Manifold output port single size fitting block																	
NPM	Individual air supply spacer (with M5 female thread for F10)																	
NP6	Individual air supply spacer (with φ6 fitting for F15)																	
NP8	Individual air supply spacer (with φ8 fitting for F15)																	
NRM	Individual exhaust spacer (with M5 female thread for F10)																	
NR6	Individual exhaust spacer (with φ6 fitting for F15)																	
NR8	Individual exhaust spacer (with φ8 fitting for F 15)																	

Notes: 1. Cannot be mounted on the external pilot manifold.
2. Cannot be mounted on the internal pilot manifold.
3. To designate a manual lever override, enter ○ in the manual override column of the designated stations in the above table.
4. When the manifold output specifications are **L**(with single fitting block), select from **J5** or **J6** in the manifold fitting specifications column of the above table, and enter ○ for each station.
5. When mounting the individual air supply or exhaust spacer, enter ○ in the spacer column of the designated stations in the above table.

Caution: Valve units can be selected only the even-numbered units between 6 and 16.

Wiring connection specifications are **-W** (for double wiring)

※For the valve and block-off plate mounted at each station, enter ○ for each designated station below.

Mounting valve, block-off plate ＼ Station		1	2	3	4	5	6	7	8	Quantity
F□T0	2-position, single solenoid only									
F□T1	2-position, single solenoid specification									
F□T2	2-position, double solenoid specification									
F□T3	3-position, all port block									
F□T4[Note 6]	3-position, ABR connection									
F□T5[Note 6]	3-position, PAB connection									
F□BPC	Block-off plate									
Manual override (**-R**) Manual lever override										
Manifold fitting specification[Note 4]	**J5** Manifold output port single size fitting block									
	J6 Manifold output port single size fitting block									
NPM	Individual air supply spacer (with M5 female thread for F10)									
NP6	Individual air supply spacer (with φ6 fitting for F15)									
NP8	Individual air supply spacer (with φ8 fitting for F15)									
NRM	Individual exhaust spacer (with M5 female thread for F10)									
NR6	Individual exhaust spacer (with φ6 fitting for F15)									
NR8	Individual exhaust spacer (with φ8 fitting for F 15)									

Caution: Valve units are either 6 or 8 units.

Notes :1. Cannot be mounted on the external pilot manifold.
2. Cannot be mounted on the internal pilot manifold.
3. To designate a manual lever override, enter ○ in the manual override column of the designated stations in the above table.
4. When the manifold output specifications are **L**(with single size fitting block), select from **J5** or **J6** in the manifold fitting specifications column of the above table, and enter ○ for each station.
5. When mounting the individual air supply or exhaust spacer, enter ○ in the spacer column of the designated stations in the above table.
6. Not available with vacuum valve.

Quantity set	**Delivery**

PC Board Manifold F Type

Specifications Confirmation Form

●Fill in selections inside the thick-lined boxes.

Order Date Month/ Day/ Year/

Company name	
Name of the person in charge	
Order No.	
Equipment name	

Manifold model

F□M□FP- □ - □

Valve size
10 : 10mm width
15 : 15mm width

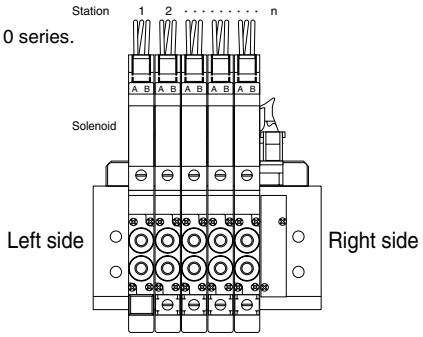
Valve units
6～16
(only even-numbered units)

Wiring specification
F200
F201

Wiring connection specification
S : Single wiring
W : Double wiring

Caution: 6 or 8 units, when the wiring connection specifications are **-W**(double wiring)

Illustration shows the F10 series.



Mounting valve models

stn. □F Valve size **T** Valve specification **-** Note 1 **-** Note 2 **-PP-** Note 3 □

Manual override
Blank : Manual override
R : Manual lever override[Note 1] (made to order)

Valve type
FJ : With different size fitting block (**F10**: ϕ4 and ϕ6, **F15**: ϕ6 and ϕ8)[Note 2]
FJ5 : With single size fitting block (**F10**: ϕ4, **F15**: ϕ6)[Note 2]
FJ6 : With single size fitting block (**F10**: ϕ6, **F15**: ϕ8)[Note 2]
FM : With female thread block (**F10**:M5×0.8, **F15**:Rc1/8)[Note 2]

Individual air supply and exhaust spacer[Note 3]
Blank : Without spacer
NPM : Individual air supply spacer (with M5 female thread for F10)
NP6 : Individual air supply spacer (with ϕ6 fitting for F15)
NP8 : Individual air supply spacer (with ϕ8 fitting for F15)
NRM : Individual exhaust spacer (with M5 female thread for F10)
NR6 : Individual exhaust spacer (with ϕ6 fitting for F15)
NR8 : Individual exhaust spacer (with ϕ8 fitting for F15)

Voltage
DC24V
DC12V

Wiring connection specifications are **-S** (for single wiring)

※For the valve and block-off plate mounted at each station, enter ○ for each designated station below.

Mounting valve, block-off plate \ Station		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Quantity
F□T0	2-position, single solenoid only																	
F□T1	2-position, single solenoid specification																	
F□BPC	Block-off plate																	
Manual override (**-R**) Manual lever override																		
Valve output type[Note 2]	**FJ** With different size fitting block																	
	FJ5 With single size fitting block																	
	FJ6 With single size fitting block																	
	FM With female thread block																	
NPM	Individual air supply spacer (with M5 female thread for F10)																	
NP6	Individual air supply spacer (with ϕ6 fitting for F15)																	
NP8	Individual air supply spacer (with ϕ8 fitting for F15)																	
NRM	Individual exhaust spacer (with M5 female thread for F10)																	
NR6	Individual exhaust spacer (with ϕ6 fitting for F15)																	
NR8	Individual exhaust spacer (with ϕ8 fitting for F 15)																	

Notes: 1. To designate a manual lever override, enter ○ in the manual override column of the designated stations in the above table.
2. Select from **FJ**, **FJ5**, **FJ6, FM** in the valve type column of the above table, and enter ○ for each station.
3. When mounting the individual air supply or exhaust spacer, enter ○ in the spacer column of the designated stations in the above table.

Caution: Valve units can be selected only the even-numbered units between 6 and 16.

Wiring connection specifications are **-W** (for double wiring)

※For the valve and block-off plate mounted at each station, enter ○ for each designated station below.

Mounting valve, block-off plate \ Station		1	2	3	4	5	6	7	8	Quantity
F□T0	2-position, single solenoid only									
F□T1	2-position, single solenoid specification									
F□T2	2-position, double solenoid specification									
F□T3	3-position, all port block									
F□T4	3-position, ABR connection									
F□T5	3-position, PAB connection									
F□BPC	Block-off plate									
Manual override (**-R**) Manual lever override										
Valve output type[Note 2]	**FJ** With different size fitting block									
	FJ5 With single size fitting block									
	FJ6 With single size fitting block									
	FM With female thread block									
NPM	Individual air supply spacer (with M5 female thread for F10)									
NP6	Individual air supply spacer (with ϕ6 fitting for F15)									
NP8	Individual air supply spacer (with ϕ8 fitting for F15)									
NRM	Individual exhaust spacer (with M5 female thread for F10)									
NR6	Individual exhaust spacer (with ϕ6 fitting for F15)									
NR8	Individual exhaust spacer (with ϕ8 fitting for F 15)									

Caution: Valve units are either 6 or 8 units.

Notes: 1. To designate a manual lever override, enter ○ in the manual override column of the designated stations in the above table.
2. Select from **FJ**, **FJ5**, **FJ6, FM** in the valve type column of the above table, and enter ○ for each station.
3. When mounting the individual air supply or exhaust spacer, enter ○ in the spacer column of the designated stations in the above table.

Quantity	Delivery
set	

Split Manifold Non-Plug-in Type

Specifications Confirmation Form 1/2

Order Date Month/ Day/ Year/

Company name	
Name of the person in charge	
Order No.	
Equipment name	

●Fill in selections inside the thick-lined boxes.

Manifold model

F□M□N□□-□

Valve size
10 : 10mm width
15 : 15mm width
18 : 18mm width

Valve units
2～20

Manifold output specification
J : With different size fitting block
M : With female thread block
L : With single size fitting block
Blank : With plate (direct piping type)

Pilot specification
Blank : Internal pilot manifold
G : External pilot manifold

Piping block specification
JR : With different size fitting on right side
JL : With different size fitting on left side
JD : With different size fittings on both sides
MR : With female thread on right side
ML : With female thread on left side
MD : With female threads on both sides
J5R : With single size fitting ϕ8 on right side (not available for F18)
J6R : With single size fitting ϕ10 on right side (not available for F18)
J5L : With single size fitting ϕ8 on left side (not available for F18)
J6L : With single size fitting ϕ10 on left side (not available for F18)
J5D : With single size fittings ϕ8 on both sides (not available for F18)
J6D : With single size fittings ϕ10 on both sides (not available for F18)

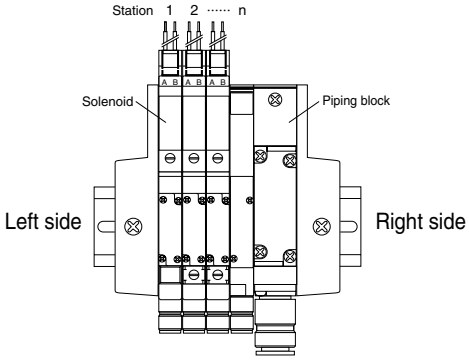


Illustration shows the F 10 series.

Split Manifold Non-Plug-in Type

Specifications Confirmation Form 2/2

●Fill in selections inside the thick-lined boxes.

When manifold output specifications are **J** or **M** or **L**.

stn. □ **F** Valve size **T** Valve specification □ - Note 3 - **A1** / Note 4 - Note 5 - □ - Note 6 - Note 7 □

Manual override
Blank : Manual override
R : Manual lever override[Note 3] (made to order)

Operation method
Blank : Internal pilot type[Note 1]
G : External pilot type[Note 2]

Manifold fitting specification [Note 5]
J5 : Can be selected with manifold output specification **L** (with single size fitting block). Manifold side output port single size fitting **F10**: ϕ4, **F15**: ϕ6, **F18**: ϕ8
J6 : Can be selected with manifold output specification **L** (with single size fitting block). Manifold side output port single size fitting **F10**: ϕ6, **F15**: ϕ8, **F18**: ϕ10

Wiring specification
PN : S type plug connector, without connector
PS : S type plug connector, lead wire 300mm
PS3 : S type plug connector, lead wire 3000mm
CPS : Plus common pre-wiring connection S type plug connector, lead wire 300mm
CPS3 : Plus common pre-wiring connection S type plug connector, lead wire 3000mm

Individual air supply and exhaust spacer[Note 6]
Blank : Without spacer
NPM : Individual air supply spacer (with M5 female thread for F10)
NP6 : Individual air supply spacer (with ϕ6 fitting for F15)
NP8 : Individual air supply spacer (with ϕ8 fitting for F15 and F18)
NP0 : Individual air supply spacer (with ϕ10 fitting for F18)
NRM : Individual exhaust spacer (with M5 female thread for F10)
NR6 : Individual exhaust spacer (with ϕ6 fitting for F15)
NR8 : Individual exhaust spacer (with ϕ8 fitting for F15 and F18)
NR0 : Individual exhaust spacer (with ϕ10 fitting for F18)

Split
Blank : Without split
SP : For P port[Note 7]
SR : For R port[Note 7]
SA : For both P and R ports [Note 7]

Voltage
DC24V
DC12V
AC100V

Valve output type
A1 : With plate (When manifold output specifications are **J** or **M** or **L**, the valve type is **A1**.)
FJ : With different size fitting block (Can be selected when manifold output specification is **"Blank"**, valve side output port different size fittings **F10**: ϕ4 and ϕ6, **F15**: ϕ6 and ϕ8, **F18**: ϕ8 and ϕ10)[Note 4]
FJ5 : With single size fitting block (Can be selected when manifold output specification is **"Blank"**, valve side output port single size fitting **F10**: ϕ4, **F15**: ϕ6, **F18**: ϕ8)[Note 4]
FJ6 : With single size fitting block (Can be selected when manifold output specification is **"Blank"**, valve side output port single size fitting **F10**: ϕ6, **F15**: ϕ8, **F18**: ϕ10)[Note 4]
FM : With female thread block (Can be selected when manifold output specification is **"Blank"**, valve side output port female thread **F10**:M5×0.8, **F15**:Rc1/8, **F18**:Rc1/4)[Note 4]

Mounting valve models

※For the valve and block-off plate mounted at each station, enter ○ for each designated station below.

Mounting valve, block-off plate \ Station		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Quantity
F□T0 2-position, single solenoid only																						
F□T1 2-position, single solenoid specification																						
F□T2 2-position, double solenoid specification																						
F□T3 3-position, all port block																						
F□T4 3-position, ABR connection																						
F□T5 3-position, PAB connection																						
F□BPC Block-off plate																						
Manual override (**-R**) Manual lever override																						
Valve output type[Note 4]	**FJ** With different size fitting block																					
	FJ5 With single size fitting block																					
	FJ6 With single size fitting block																					
	FM With female thread block																					
Manifold fitting specification[Note 5]	**J5** Manifold output port single size fitting																					
	J6 Manifold output port single size fitting																					
Split (**-SP**) For P port[Note 8]																						
Split (**-SR**) For R port[Note 8]																						
Split (**-SA**) For both P and R ports[Note 8]																						
NPM Individual air supply spacer (with M5 female thread for F10)																						
NP6 Individual air supply spacer (with ϕ6 fitting for F15)																						
NP8 Individual air supply spacer (with ϕ8 fitting for F15 and F18)																						
NP0 Individual air supply spacer (with ϕ10 fitting for F18)																						
NRM Individual exhaust spacer (with M5 female thread for F10)																						
NR6 Individual exhaust spacer (with ϕ6 fitting for F15)																						
NR8 Individual exhaust spacer (with ϕ8 fitting for F15 and F18)																						
NR0 Individual exhaust spacer (with ϕ10 fitting for F18)																						

Notes : 1. Cannot be mounted on the external pilot manifold.
2. Cannot be mounted on the internal pilot manifold.
3. To designate a manual lever override, enter ○ in the manual override column of the designated stations in the above table.
4. When manifold output specifications are **"Blank,"** select from **FJ**, **FJ5**, **FJ6** or **FM** in the valve type column of the above table, and enter ○ for each station.
5. When the manifold output specifications are **L**(with single size fitting block), select from **J5** or **J6** in the manifold fitting specifications column of the above table, and enter ○ for each station.
6. When mounting the individual air supply or exhaust spacer, enter ○ in the spacer column of the designated stations in the above table.
7. To designate a split, enter ○ in the split column of the designated stations in the above table.
8. Splits can be mounted as long as piping blocks are attached to both sides. In addition, the number of splits that can be mounted on one manifold set is limited to one location (one station) for **-SA**, for **-SP**,**-SR** limited to one location (one station) each, total 2 locations. Splits are installed at time of delivery in the space between the designated station and the station to its left (the side with the smaller station number).

Quantity	Delivery
set	

Split Manifold Plug-in Type

Specifications Confirmation Form 1/2

●Fill in selections inside the thick-lined boxes.

Order Date Month/ Day/ Year/

Company name	
Name of the person in charge	
Order No.	
Equipment name	

Manifold model

F □M□P□□-□□-□□□-□-□□□□

Valve size
10 : 10mm width
15 : 15mm width
18 : 18mm width

Valve units
2～□[Note]

Note : For the maximum number of units, check the table for maximum number of valve units, by wiring specification, on p.548.

Manifold output specification
J : With different size fitting block
M : With female thread block
L : With single size fitting block
Blank : With plate (direct piping type)

Pilot specification
Blank : Internal pilot manifold
G : External pilot manifold

Piping block specification
JR : With different size fittings on right side
JL : With different size fittings on left side
JD : With different size fittings on both sides
MR : With female thread on right side
ML : With female thread on left side
MD : With female threads on both sides
J5R : With single size fitting φ8 on right side (not available for F18)
J6R : With single size fitting φ10 on right side (not available for F18)
J5L : With single size fitting φ8 on left side (not available for F18)
J6L : With single size fitting φ10 on left side (not available for F18)
J5D : With single size fittings φ8 on both sides (not available for F18)
J6D : With single size fittings φ10 on both sides (not available for F18)

Wiring connection specification
Blank : Packed wiring
W : Double wiring

Wiring position (wiring block)
Blank : Left-side mounting
R : Right-side mounting

Voltage
DC24V
DC12V
AC100V[Note 9]

Wiring specification
F100 : Flat cable connector 10-pin
F101 : Flat cable connector 10-pin
F200 : Flat cable connector 20-pin
F201 : Flat cable connector 20-pin
F260 : Flat cable connector 26-pin
D250 : D sub connector 25-pin
D251 : D sub connector 25-pin
T200 : Terminal block 19-terminal

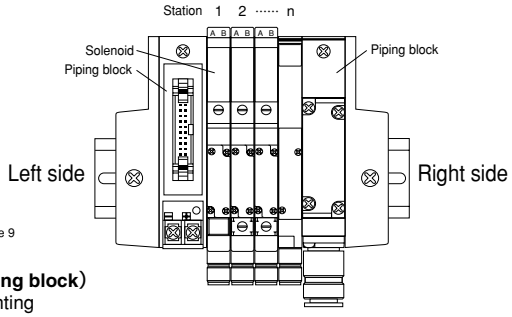
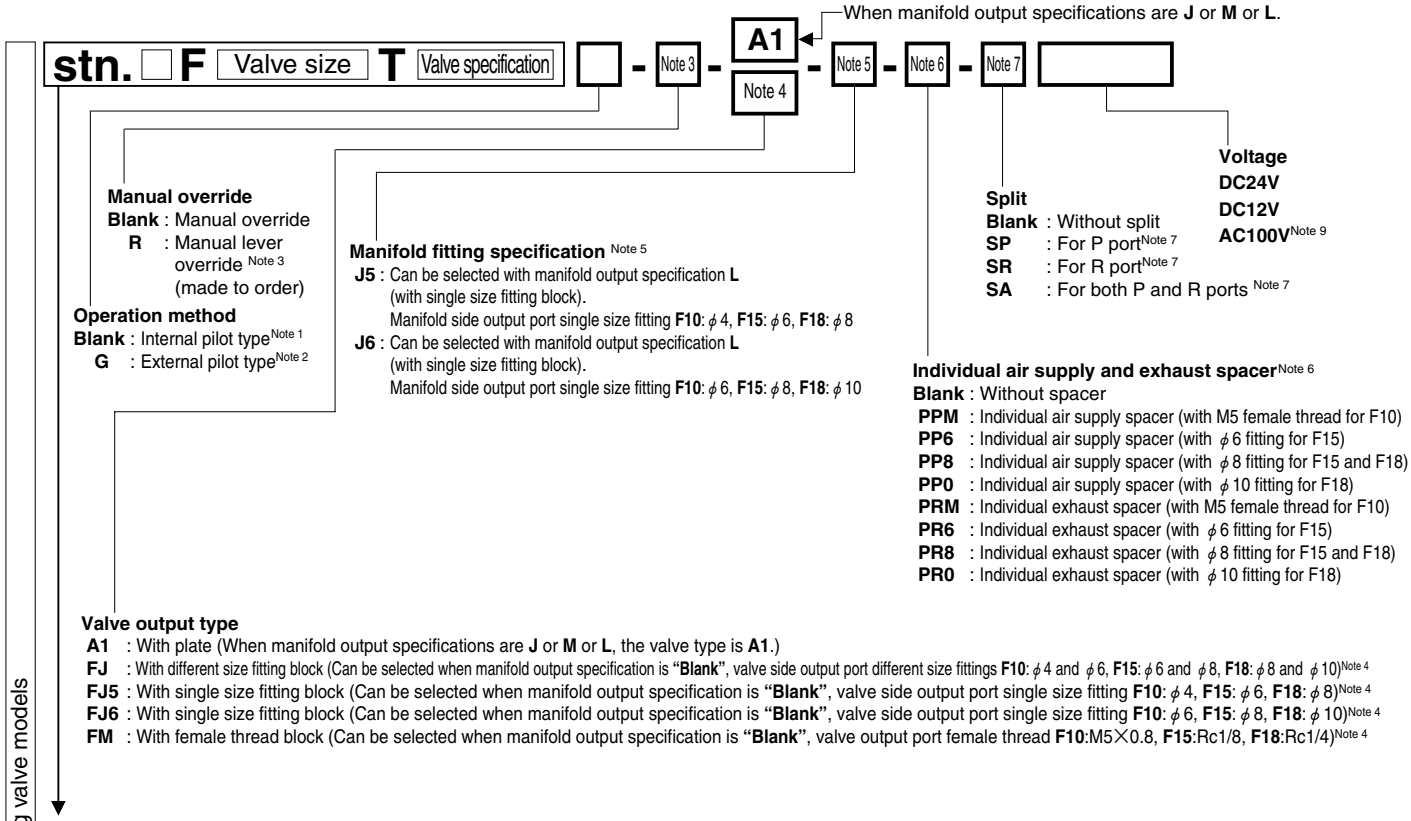


Illustration shows the F 10 series, flat cable connector type.

Split Manifold Plug-in Type

Specifications Confirmation Form 2/2

●Fill in selections inside the thick-boxes.


When manifold output specifications are J or M or L.
stn. □ F Valve size T Valve specification □ - Note 3 - A1 Note 4 - Note 5 - Note 6 - Note 7
Manual override
Blank : Manual override
R : Manual lever override Note 3 (made to order)
Operation method
Blank : Internal pilot type Note 1
G : External pilot type Note 2
Manifold fitting specification Note 5
J5 : Can be selected with manifold output specification L (with single size fitting block). Manifold side output port single size fitting F10: φ4, F15: φ6, F18: φ8
J6 : Can be selected with manifold output specification L (with single size fitting block). Manifold side output port single size fitting F10: φ6, F15: φ8, F18: φ10
Split
Blank : Without split
SP : For P port Note 7
SR : For R port Note 7
SA : For both P and R ports Note 7
Voltage
DC24V
DC12V
AC100V Note 9
Individual air supply and exhaust spacer Note 6
Blank : Without spacer
PPM : Individual air supply spacer (with M5 female thread for F10)
PP6 : Individual air supply spacer (with φ6 fitting for F15)
PP8 : Individual air supply spacer (with φ8 fitting for F15 and F18)
PP0 : Individual air supply spacer (with φ10 fitting for F18)
PRM : Individual exhaust spacer (with M5 female thread for F10)
PR6 : Individual exhaust spacer (with φ6 fitting for F15)
PR8 : Individual exhaust spacer (with φ8 fitting for F15 and F18)
PR0 : Individual exhaust spacer (with φ10 fitting for F18)
Valve output type
A1 : With plate (When manifold output specifications are J or M or L, the valve type is A1.)
FJ : With different size fitting block (Can be selected when manifold output specification is "Blank", valve side output port different size fittings F10: φ4 and φ6, F15: φ6 and φ8, F18: φ8 and φ10) Note 4
FJ5 : With single size fitting block (Can be selected when manifold output specification is "Blank", valve side output port single size fitting F10: φ4, F15: φ6, F18: φ8) Note 4
FJ6 : With single size fitting block (Can be selected when manifold output specification is "Blank", valve side output port single size fitting F10: φ6, F15: φ8, F18: φ10) Note 4
FM : With female thread block (Can be selected when manifold output specification is "Blank", valve output port female thread F10:M5×0.8, F15:Rc1/8, F18:Rc1/4) Note 4
Mounting valve models

※For the valve and block-off plate mounted at each station, enter ○ for each designated station below.

Mounting valve, block-off plate \ Station		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Quantity
F□T0	2-position, single solenoid only																					
F□T1	2-position, single solenoid specification																					
F□T2	2-position, double solenoid specification																					
F□T3	3-position, all port block																					
F□T4	3-position, ABR connection																					
F□T5	3-position, PAB connection																					
F□BPP	Block-off plate																					
Manual override (**-R**) Manual lever override																						
Valve output type Note 4	**FJ** With different size fitting block																					
	FJ5 With single size fitting block																					
	FJ6 With single size fitting block																					
	FM With female thread block																					
Manifold fitting specification Note 5	**J5** Manifold output port single size fitting																					
	J6 Manifold output port single size fitting																					
Split (**-SP**) For P port Note 8																						
Split (**-SR**) For R port Note 8																						
Split (**-SA**) For both P and R ports Note 8																						
PPM	Individual air supply spacer (with M5 female thread for F10)																					
PP6	Individual air supply spacer (with φ6 fitting for F15)																					
PP8	Individual air supply spacer (with φ8 fitting for F15 and F18)																					
PP0	Individual air supply spacer (with φ10 fitting for F18)																					
PRM	Individual exhaust spacer (with M5 female thread for F10)																					
PR6	Individual exhaust spacer (with φ6 fitting for F15)																					
PR8	Individual exhaust spacer (with φ8 fitting for F15 and F18)																					
PR0	Individual exhaust spacer (with φ10 fitting for F18)																					

Notes : 1. Cannot be mounted on the external pilot manifold.
2. Cannot be mounted on the internal pilot manifold.
3. To designate a manual lever override, enter ○ in the manual override column of the designated stations in the above table.
4. When manifold output specifications are "**Blank**," select from **FJ**, **FJ5**, **FJ6** or **FM** in the valve type column of the above table, and enter ○ for each station.
5. When the manifold output specifications are **L**(with single size fitting block), select from **J5** or **J6** in the manifold fitting specifications column of the above table, and enter ○ for each station.
6. When mounting the individual air supply or exhaust spacer, enter ○ in the spacer column of the designated stations in the above table.
7. To designate a split, enter ○ in the split column of the designated stations in the above table.
8. Splits can be mounted as long as piping blocks are attached to both sides. In addition, the number of splits that can be mounted on one manifold set is limited to one location (one station) for **-SA**, for **-SP**, **-SR** limited to one location (one station) each, total 2 locations.
Splits are installed at time of delivery in the space between the designated station and the station to its left (the side with the smaller station number).
9. AC100V can only be used when wiring specifications are **-D250**, **-D251** (D sub connector), or **-T200** (terminal block).

Quantity	set
Delivery	

Serial Transmission Compatible Manifold

Specifications Confirmation Form 1/2

Order Date Month/ Day/ Year/

Company name	
Name of the person in charge	
Order No.	
Equipment name	

●Fill in selections inside the thick-lined boxes.

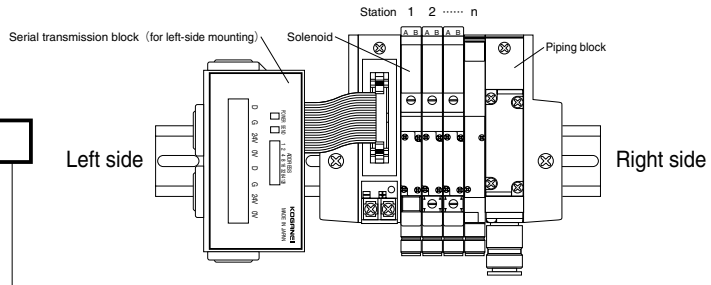


Illustration shows the F 10 series.

F □M □S □□-□□-□□-□-□

Manifold model

Valve size
10 : 10mm width
15 : 15mm width
18 : 18mm width

Valve units
2～□Note

Note: For the maximum number of units, confirm the table for maximum number of valve units, by wiring specification, on p. 552, 556.

Pilot specification
Blank : Internal pilot manifold
G : External pilot manifold

Manifold output specification
J : With different size fitting block
M : With female thread block
L : With single size fitting block
Blank : With plate (direct piping type)

Piping block specification
JR : With different size fitting on right side
JL : With different size fitting on left side
JD : With different size fittings on both sides
MR : With female thread on right side
ML : With female thread on left side
MD : With female threads on both sides
J5R : With single size fitting φ8 on right side (not available for F18)
J6R : With single size fitting φ10 on right side (not available for F18)
J5L : With single size fitting φ8 on left side (not available for F18)
J6L : With single size fitting φ10 on left side (not available for F18)
J5D : With single size fittings φ8 on both sides (not available for F18)
J6D : With single size fittings φ10 on both sides (not available for F18)

Wiring connection specification
Blank : Packed wiring
W : Double wiring

Wiring position (transmission block)
Blank : Left-side mounting
R : Right-side mounting Note

Note : For Omron CompoBus/D can only be mounted on left side.

Transmission block specification
01 : For UNI-WIRE System (16-output)
02 : For UNI-WIRE System (8-output)
11 : For Mitsubishi Electric MELSECNET/MINI-S3
21 : For Omron SYSBUS Wire System
31 : For Omron B7A Link Terminal (standard)
32 : For Omron B7A Link Terminal (high-speed)
41 : For Koyo Electric Industries SA Bus (16-output)
42 : For Koyo Electric Industries SA Bus (8-output)
51 : For Sunx S-LINK (16-output)
52 : For Sunx S-LINK (8-output)
61 : For Mitsubishi Electric MELSEC I/O LINK
71 : For Fuji Electric T Link Mini
81 : For Keyence KZ-R
91 : For Omron CompoBus/D
A1 : For Omron CompoBus/S (16-output)
A2 : For Omron CompoBus/S (8-output)
B1 : For Mitsubishi Electric CC-Link

Specifications Confirmation Form 2/2

Mounting valve model

stn. □ **F** Valve size **T** Valve specification □ - Note 3 - A1 / Note 4 - Note 5 - Note 6 - Note 7 **DC24V**

When manifold output specifications are **J** or **M** or **L**.

Manual override
Blank : Manual override
R : Manual lever override Note 3 (made to order)

Operation method
Blank : Internal pilot type Note 1
G : External pilot type Note 2

Individual air supply and exhaust spacer Note 6
Blank : Without spacer
PPM : Individual air supply spacer (with M5 female thread for F10)
PP6 : Individual air supply spacer (with ϕ6 fitting for F15)
PP8 : Individual air supply spacer (with ϕ8 fitting for F15 and F18)
PP0 : Individual air supply spacer (with ϕ10 fitting for F18)
PRM : Individual exhaust spacer (with M5 female thread for F10)
PR6 : Individual exhaust spacer (with ϕ6 fitting for F15)
PR8 : Individual exhaust spacer (with ϕ8 fitting for F15 and F18)
PR0 : Individual exhaust spacer (with ϕ10 fitting for F18)

Split
Blank : Without split
SP : For P port Note 7
SR : For R port Note 7
SA : For both P and R ports Note 7

Manifold fitting specification Note 5
J5 : Can be selected with manifold output specification **L** (with single size fitting block). Manifold side output port single size fitting **F10**: ϕ4, **F15**: ϕ6, **F18**: ϕ8
J6 : Can be selected with manifold output specification **L** (with single size fitting block). Manifold side output port single size fitting **F10**: ϕ6, **F15**: ϕ8, **F18**: ϕ10

Valve output type
A1 : With plate (When manifold output specifications are **J** or **M** or **L**, the valve type is **A1**.)
FJ : With different size fitting block (Can be selected when manifold output specification is **"Blank"**, valve side output port different size fittings **F10**: ϕ4 and ϕ6, **F15**: ϕ6 and ϕ8, **F18**: ϕ8 and ϕ10) Note 4
FJ5 : With single size fitting block (Can be selected when manifold output specification is **"Blank"**, valve side output port single size fitting **F10**: ϕ4, **F15**: ϕ6, **F18**: ϕ8) Note 4
FJ6 : With single size fitting block (Can be selected when manifold output specification is **"Blank"**, valve side output port single size fitting **F10**: ϕ6, **F15**: ϕ8, **F18**: ϕ10) Note 4
FM : With female thread block (Can be selected when manifold output specification is **"Blank"**, valve output port female thread **F10**:M5×0.8, **F15**:Rc1/8, **F18**:Rc1/4) Note 4

※For the valve and block-off plate mounted at each station, enter ○ for each designated station below.

Mounting valve, block-off plate \ Station		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Quantity
F□T0	2-position, single solenoid only																	
F□T1	2-position, single solenoid specification																	
F□T2	2-position, double solenoid specification																	
F□T3	3-position, all port block																	
F□T4	3-position, ABR connection																	
F□T5	3-position, PAB connection																	
F□BPP	Block-off plate																	
Manual override (**-R**) Manual lever override																		
Valve output type Note 4	**FJ** With different size fitting block																	
	FJ5 With single size fitting block																	
	FJ6 With single size fitting block																	
	FM With female thread block																	
Manifold fitting specification Note 5	**J5** Manifold output port single size fitting																	
	J6 Manifold output port single size fitting																	
Split (**-SP**) For P port Note 8																		
Split (**-SR**) For R port Note 8																		
Split (**-SA**) For both P and R ports Note 8																		
PPM	Individual air supply spacer (with M5 female thread for F10)																	
PP6	Individual air supply spacer (with ϕ6 fitting for F15)																	
PP8	Individual air supply spacer (with ϕ8 fitting for F15 and F18)																	
PP0	Individual air supply spacer (with ϕ10 fitting for F18)																	
PRM	Individual exhaust spacer (with M5 female thread for F10)																	
PR6	Individual exhaust spacer (with ϕ6 fitting for F15)																	
PR8	Individual exhaust spacer (with ϕ8 fitting for F15 and F18)																	
PR0	Individual exhaust spacer (with ϕ10 fitting for F18)																	

Notes : 1. Cannot be mounted on the external pilot manifold.
2. Cannot be mounted on the internal pilot manifold.
3. To designate a manual lever override, enter ○ in the manual override column of the designated stations in the above table.
4. When manifold output specifications are **"Blank,"** select from **FJ**, **FJ5**, **FJ6** or **FM** in valve type column of the above table, and enter ○ for each station.
5. When the manifold output specifications are **L**(with single size fitting block), select from **J5** or **J6** in the manifold fitting specifications column of the above table, and enter ○ for each station.
6. When mounting the individual air supply or exhaust spacer, enter ○ in the spacer column of the designated stations in the above table.
7. To designate a split, enter ○ in the split column of the designated stations in the above table.
8. Splits can be mounted as long as piping blocks are attached to both sides. In addition, the number of splits that can be mounted on one manifold set is limited to one location (one station) for **-SA**, for **-SP**, **-SR** limited to one location (one station) each, total 2 locations.
Splits are installed at time of delivery in the space between the designated station and the station to its left (the side with the smaller station number).

Quantity	set
Delivery	